REHAB BLDG 259 FOR FIRE DEPARTMENT
PROJECT 538-12-103
VA MEDICAL CENTER
CHILLICOTHE, OHIO

General Notes

1. These notes apply equally to the full set of drawings.
2. COTR is the Contracting Officer's Technical Representative.
3. Contractor is intended to include contractors and subcontractors.
4. This building will not be occuppied by VA personnel during performance of this project. The contractors are responsible for protecting all finishes, equipment, etc that remains during construction.
5. Prior to bidding all prospective contractors are encouraged to visit site, examine and accept all existing conditions. Site visit shall be as outlined in project specifications. Unscheduled visits shall not be allowed.
6. Any asbestos work performed as part of this project shall be completed prior to starting any other on site project work.
7. The contractor shall refer to ALL drawings for related work. The various drawings comprising the set are interdependent and must be used jointly at all times. Notes and symbols set down on the drawings are for guidance of all trades involved in the project and must be followed to execute the work as intended. If discrepancies ocur, contact the project COTR for clarification before proceeding.
8. In accordance with generally accepted construction practices, the general contractor shall be solely and completely responsible for the conditions on the job site, including safety of all persons and property during performance of the work.
9. All project work must be coordinated with the COTR to maintain operations of the existing hospital facility. It is the responsibility of the general contractor to notify the project COTR of any work that might require interruption of utility services. All such interruptions shall be scheduled as outlined in project specifications.
10. All dimensions are approximate and may vary in the field. New partitions shall be located to the finish face as indicated by the dimension. Where no dimension is indicated, partitions, doors, etc shall be located form existing columns, windows, partitions, doors, etc as indicate don the plans. All new partitions shall be located in the field and approved by the project COTR before any construction is started. Scaling of drawings is not recommended.
11. titles, captions, headings, etc are intended for general reference and are not intended to limit the work required in any way.
12. Each contractor shall review all project drawings and specifications and coordinate their work with the work of others. He shall keep himself informed of the progress and detail development of the work of others and shall be responsible for coordinating and expediting his work with others so that the progress of the total work is kept on schedule.
13. All work shall be performed in complete compliance with all governing codes and standards.
14. Existing conditions shown have been based upon available information and may be at variance with actual work in place. The contractor shall take all necessary field measurements and field verify all conditions affecting the execution of the work. any discrepancies between existing conditions and the work shown on project drawings shall be brought to the attention of the COTR in writing for resolution before proceeding with the work.
15. Each contractor and/ or trade fitting or placing his work into or on the work of others does so with the understanding that the installation of his work constitutes his acceptance of the suitability of the work in place. If the work of others is not acceptable, he shall notify the project superintendent and project COTR and such work shall be corrected. No claims for additional compensation for correcting work installed in unsuitable conditions will be considered.
16. Do not paint any caulk or sealant which are subject to movement. control joints shall be caulked after paint application. Provide caulking and sealant in colors which match adjacent finished surface.
17. Verify all conditions and dimensions in the field prior to fabricating any items of material or equipment.
18. All existing construction to remain that is damaged or disturbed during construction shall be patched or restored to match existing adjacent construction unless otherwise indicated.
19. It is the intent of the documents to indicate complete and operational systems (i.e. structural, hvac, plumbing, electrical, etc.). the contractor shall provide the systems as operational systems which comply with applicable codes and regulations.
20. Provide fire-retardant treated 2x blocking in the stud cavity at all locations required to provide solid anchorage of wall supported items shown on the drawings, including but not limited to: grab bars, cabinets, toilet accessories, kitchen equipment, etc.
21. All suspended items such as ceilings, ducts, piping, conduit, equipment, etc. shall be suspnended (attached) directly to structure.
22. All penetrations such as conduit, ducts, pipes, etc. in all partitions and floor slabs shall be sealed to prevent the passage of any smoke, flame, gases, etc.
23. Where new construction requires drilling/ cutting through existing floor slabs or walls, the contractor shall coordinate his work to avoid drilling/ cutting into a structural element, including beams, columns, etc. Drilling numerous holes around a perimeter and knocking out necessary area is not acceptable. Such work shall be executed by core drilling and or sawing the required size of opening.
24. Where new construction (ie doors, frames, windows, casework,equipment, etc) is indicated to be installed in existing construction, the contractor shall verify all dimensions for proper fit and access prior to shop drawing submittal, ordering and delivery to site.

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259-3	Plumbing Demolition Plans
259-4	Signal & Power Demolition Plans
259-5	Lighting Demolition Plans
259-6	Building Elevations
259-7 (S1)	2nd Floor Framing Plan & Details
259-8	New Architectural Floor Plans
259-9	Furniture/ Equipment Layout Plans
259-10	New Reflected Ceiling Plans
259-11	Misc. Details & Information
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259-14	HVAC Dwg Index, Legend & General Notes
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259-16	HVAC Details
259-17	HVAC Details
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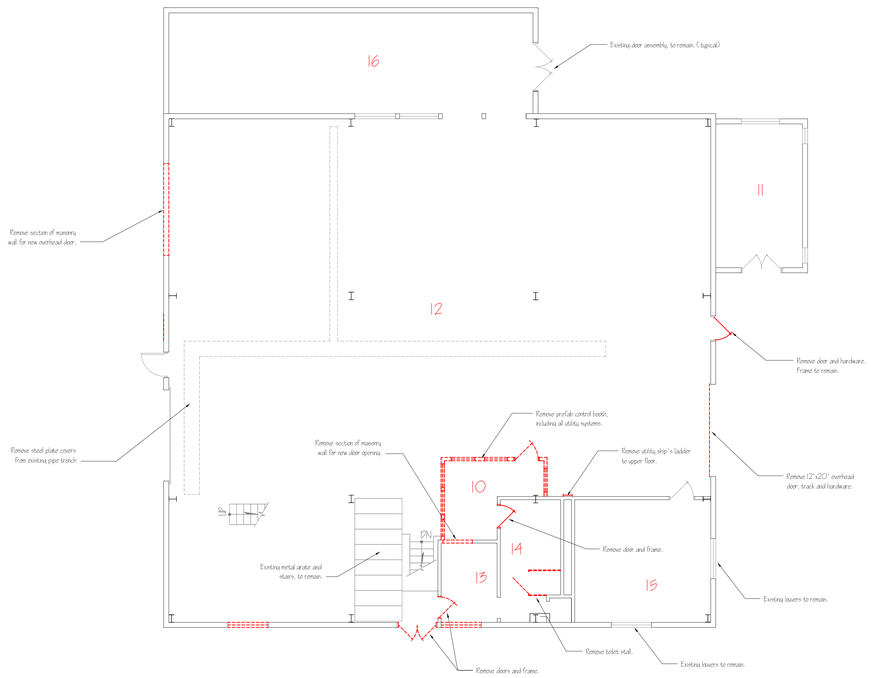
Revisions	Date

Refer to ALL other project drawings for related work.

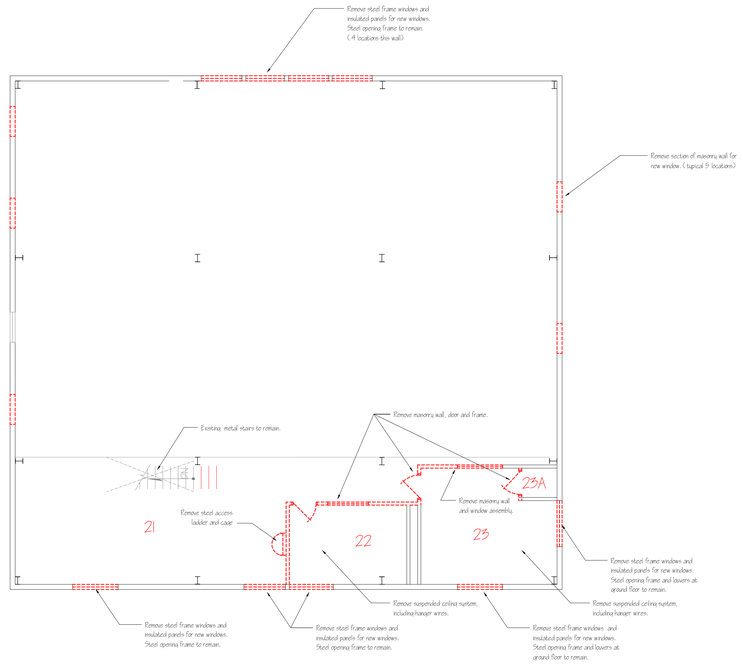
Drawing Title: Cover Sheet	Project Title: Rehab Bldg 259 For Fire Department		Date: Dec. 19, 2011
			Project No. 538-12-103
Approved: Assistant Chief, Engineering	Building Number: 259	Checked	Drawn: B. Ford
Approved: Chief, Engineering	Location: Chillicothe, Ohio		DRAWING NO. 259-1 Dwg. 1 Of 19

Planning & Design

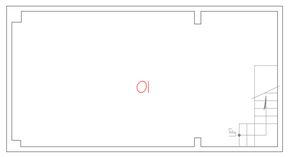
Department of Veterans Affairs



First Floor Plan



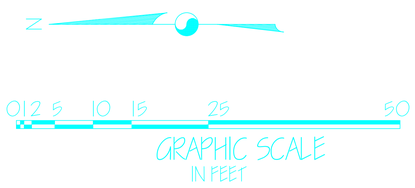
Second Floor Plan



Basement Floor Plan

NOTES:

1) Refer to New Architectural plans for new window/ door locations information.
2) Ground floor to upper floor 12' (+ / -).
Upper floor to under side of roof 11'-10" (+ / -).



Drawing Scale: 1/8"=1'-0"
30x42 drawing sheet

Revisions	Date

Refer to ALL other project drawings for related work.

Drawing Title: Architectural Demolition Plans

Project Title: Rehab Bldg 259 For Fire Department

Date: Dec. 19, 2011

Project No. 538-12-103

Approved: Assistant Chief, Engineering

Building Number: 259

Checked:

Drawn: B. Ford

Approved: Chief, Engineering

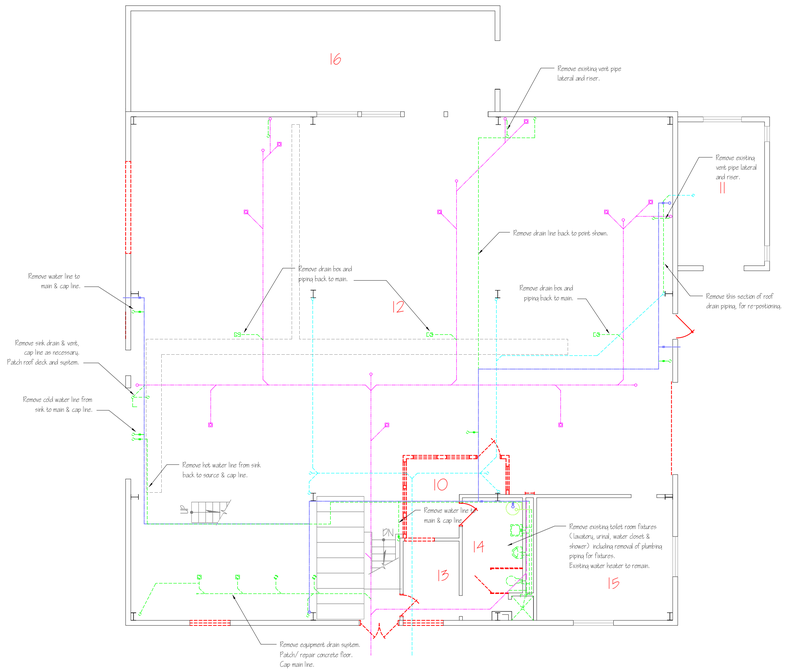
Location: Chillicothe, Ohio

DRAWING NO. 259-2

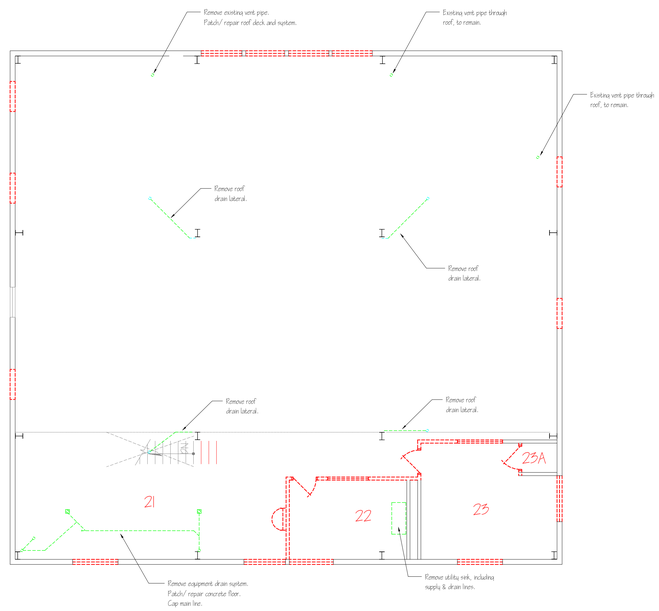
Dwg. 2 Of 19

Planning & Design

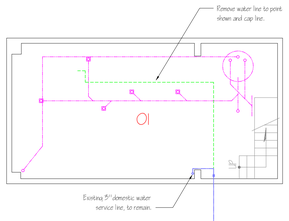
Department of Veterans Affairs



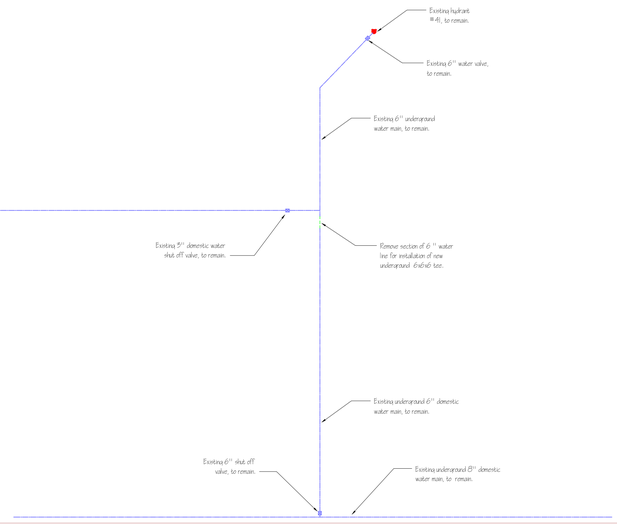
First Floor Plan



Second Floor Plan



Basement Floor Plan



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0 1 2 5 10 15 25 50

GRAPHIC SCALE
IN FEET

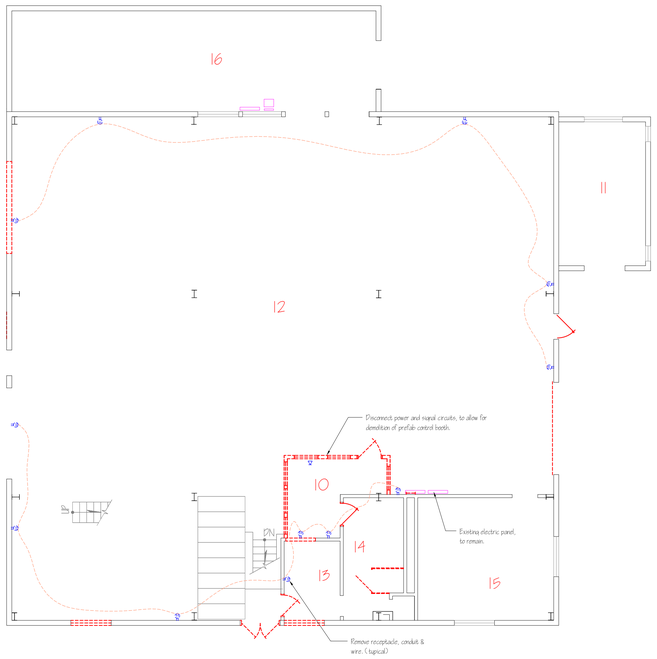
Drawing Scale: 1/8"=1'-0"
30x42 drawing sheet

Revisions	Date

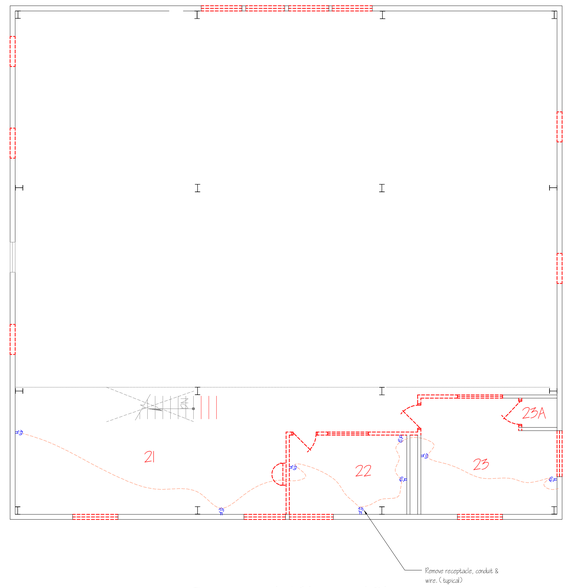
Refer to ALL other project drawings for related work.

Drawing Title: Plumbing Demolition Plans	Project Title: Rehab Bldg 259 For Fire Department		Date: Dec. 19, 2011
			Project No. 558-12-103
Approved: Assistant Chief, Engineering	Building Number: 259	Checked	Drawn: B. Ford
Approved: Chief, Engineering	Location: Chillicothe, Ohio		DRAWING NO. 259-3 Dwg. 3 Of 19

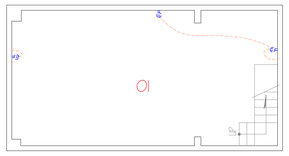
Planning & Design
Department of Veterans Affairs



First Floor Plan

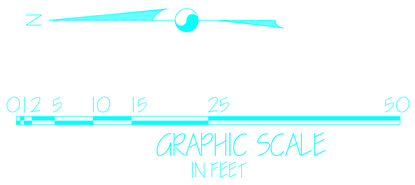


Second Floor Plan



Basement Floor Plan

Notes:
1. Remove power and signal conduits back to source, including hangers/ supports.



Drawing Scale: 1/8"=1'-0"
30x42 drawing sheet

Revisions	Date

Refer to ALL other project drawings for related work.

Drawing Title: Signal & Power Demolition Plans

Project Title: Rehab Bldg 259 For Fire Department

Date: Dec. 19, 2011

Project No. 558-12-103

Approved: Assistant Chief, Engineering

Building Number: 259

Checked:

Drawn: B. Ford

DRAWING NO. 259-4

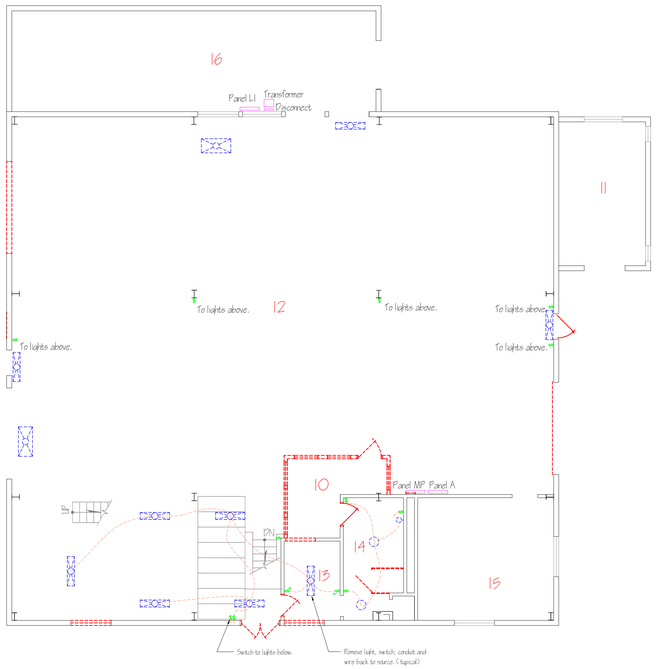
Dwg. 4 Of 19

Approved: Chief, Engineering

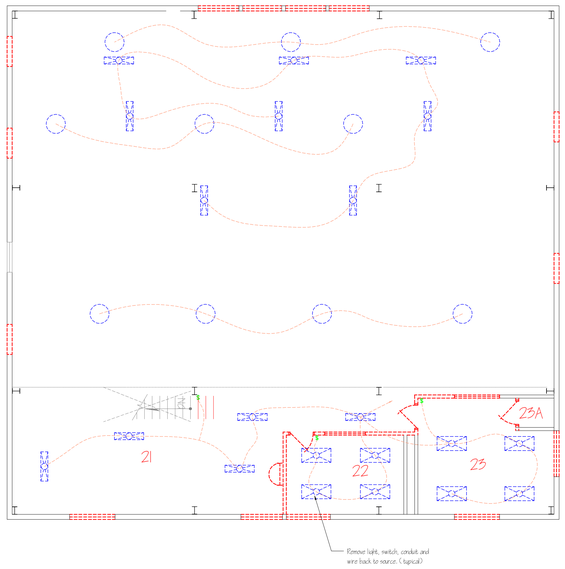
Location: Chillicothe, Ohio

Planning & Design

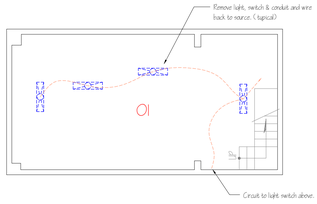
Department of Veterans Affairs



First Floor Plan



Second Floor Plan



Basement Floor Plan

Existing Panel Schedules

Panel L1 $\frac{120}{208}$ volt, 60 amp, 3 ph, 4 wire

1 water softner filter	2 service disc.
3 receptacles	4 service disc.
5 unit heater fan	6 service disc.
7 receptacle/ pump	8 spare
9 rec boiler landings	10 spare
11 light at chem test	12 spare
13 recirculating pump	14 spare
15 space	16 space
17 space	18 space
19 space	20 space
21 space	22 space
23 space	24 space
25 space	26 space
27 space	28 space
29 space	30 space

Panel P $\frac{277}{480}$ volt, 100 amp, 3 ph, 4 wire

1 condensate pump #1	2 condensate pump #2
3 sump pump @ bsmt	4 air compressor
5 RO pump	6 RO
7 fan generator room	8 feed pump

Transformer/ Disconnect
Fed from H 7-9-11
480 volt to $\frac{120}{208}$ volt 3 phase 4 wire

Panel A $\frac{120}{208}$ volt, 100 amp, 3 ph, 4 wire

1 feed pump VPD controls	2 BLR #3 controls
3 master boiler	4 BLR #1 controls
5 recover & basement	6 chemical pump
7 rec.	8 15-1
9 heat tape	10 15-1
11 heat tape	12 rec in supervisor office
13 rec gen rm e&s wall	14 bath exhaust fan
15 rec mezanine office	16 water meter
17 chemical feed pumps	18 generator battery charger
19 gen jacket water heater	20 unit heaters over hd & gen rm
21 lights in gas room	22 generator day tank
23	24 hot water tank
25 emergency gas valve	26 hot water tank
27 heat tape	28 unit heater
29 heat tape	30 light over door outside
31 max	32 spare
33 max	34 office ac
35 max	36 office ac
37 max	38 gen rm antenna t7550
39 max	40 steam xmitters cont rm
41 spare	42 gest water xmitters cont rm

Notes:
1. Remove lighting conduit back to source, including hangers/ supports.

N

0 1 2 5 10 15 25 50
GRAPHIC SCALE
IN FEET

Drawing Scale: $\frac{1}{8}$"=1'-0"
30x42 drawing sheet

Revisions	Date

Refer to ALL other project drawings for related work.

Drawing Title: Lighting Demolition Plans

Project Title: Rehab Bldg 259 For Fire Department

Date: Dec. 19, 2011

Project No. 558-12-103

Approved: Assistant Chief, Engineering

Building Number: 259

Checked

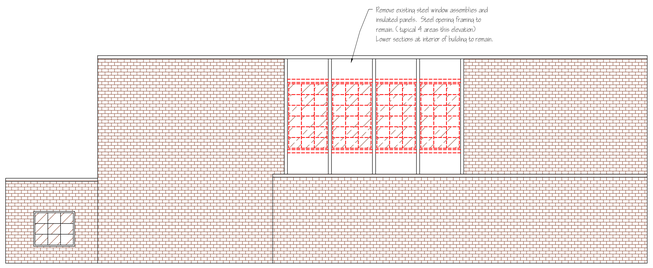
Drawn: B. Ford

DRAWING NO. 259-5
Dwg. 5 Of 19

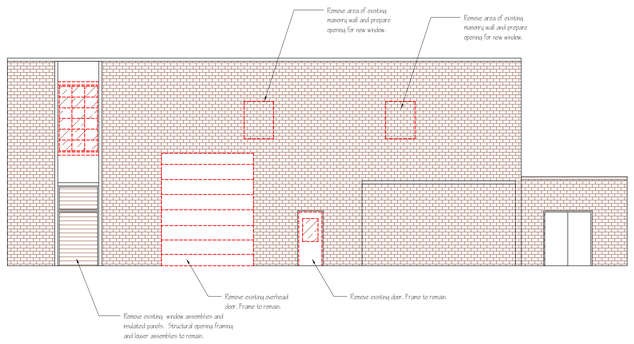
Approved: Chief, Engineering

Location: Chillicothe, Ohio

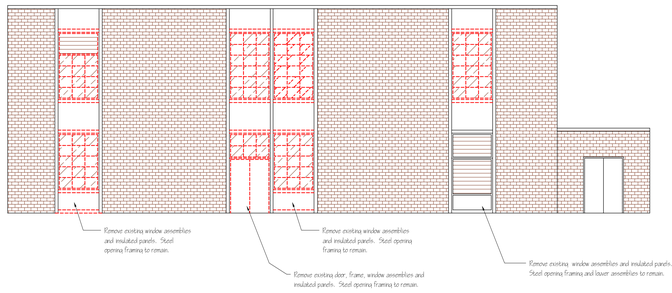
Planning & Design
Department of Veterans Affairs



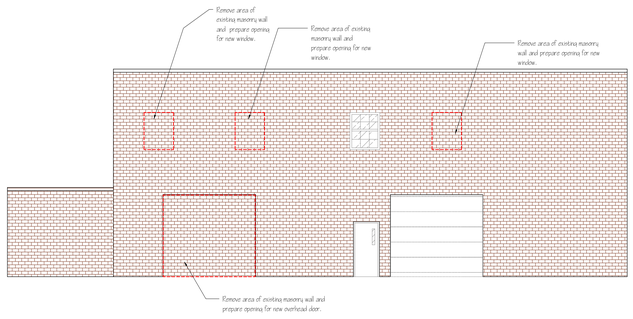
East



South



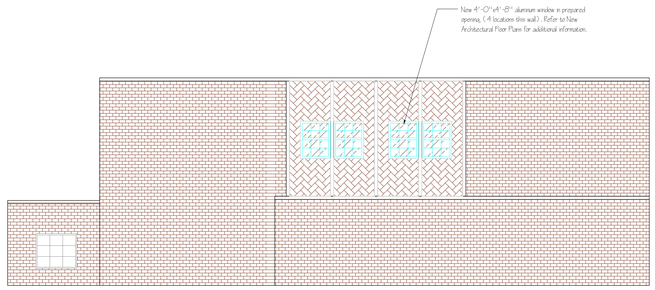
West



North

Existing Elevations

Drawing Scale: $\frac{1}{8}$" = 1'-0"
30x42 drawing sheet



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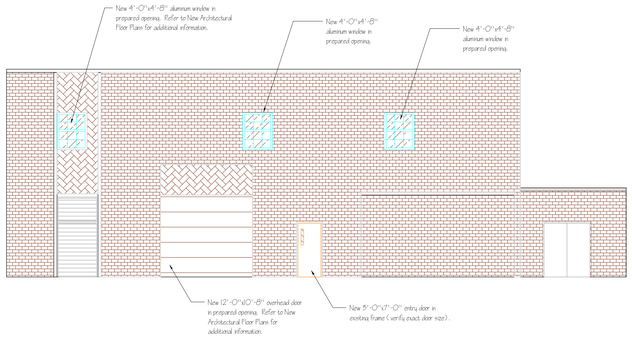

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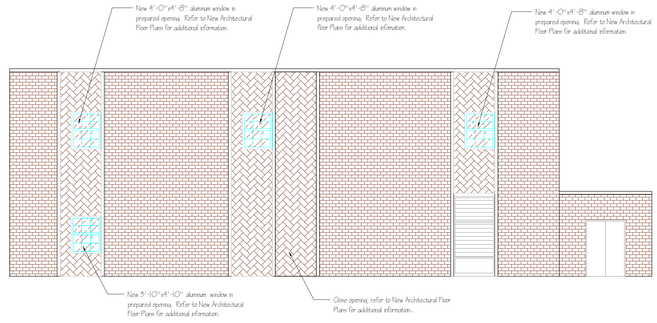

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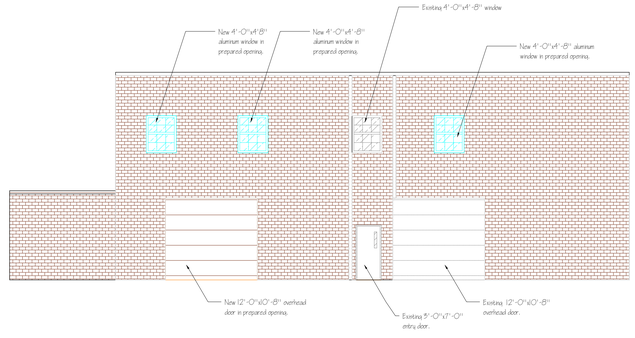


North

NOTES:
1) Refer to New Architectural plans for new window/ door's location information.

New Elevations

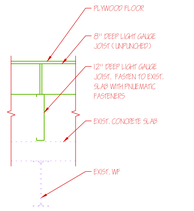
Drawing Scale: $\frac{1}{8}$" = 1'-0"
30x42 drawing sheet

Revisions	Date

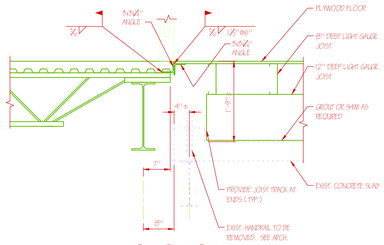
Refer to ALL other project drawings for related work.

Drawing Title: Building Elevations	Project Title: Rehab Bldg 259 For Fire Department		Date: Dec. 19, 2011
Approved: Assistant Chief, Engineering	Building Number: 259	Checked	Drawn: B. Ford
Approved: Chief, Engineering	Location: Chillicothe, Ohio		Project No. 538-12-103
			DRAWING NO. 259-6 Dwg. 6 Of 19

Planning & Design
Department of Veterans Affairs



1 259-7 **SECTION**
SCALE: 3/4" = 1'-0"



2 259-7 **SECTION**
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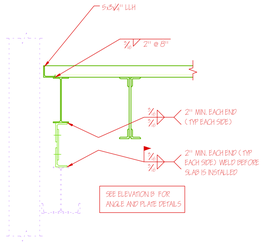

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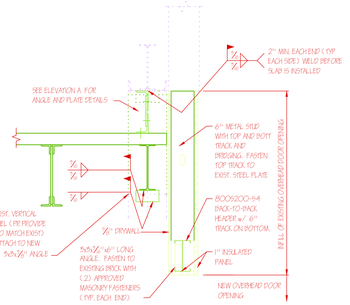

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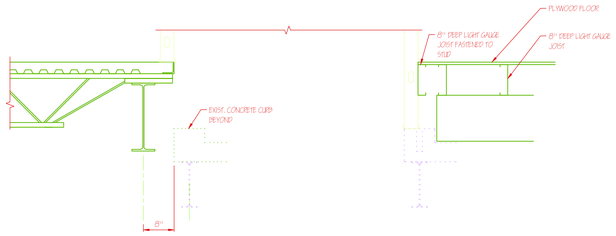

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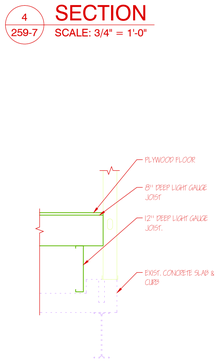

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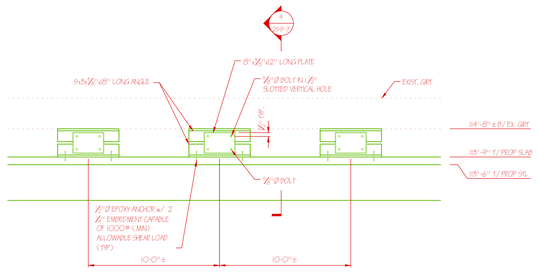
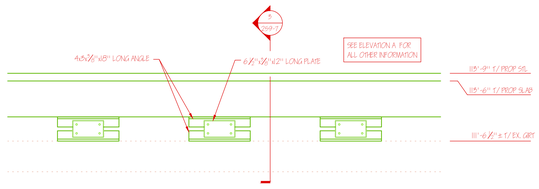


A 259-7 **ELEVATION**
SCALE: 1/2" = 1'-0"



B 259-7 **ELEVATION**
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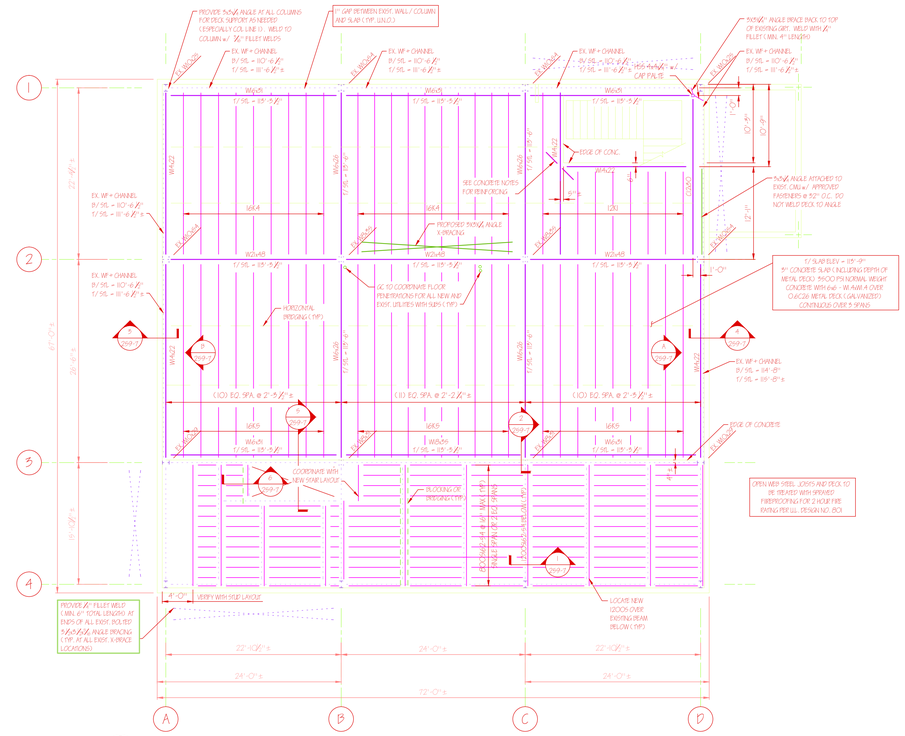
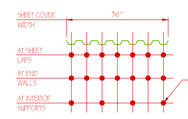
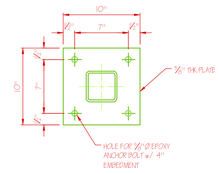


2ND FLOOR FRAMING PLAN
SCALE: 1/8" = 1'-0"



DECK FASTENER LAYOUT
N.T.S.



BASE PLATE DETAIL
SCALE: 1 1/2" = 1'-0"

CONCRETE:
ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE LATEST SPECIFICATION OF THE AMERICAN CONCRETE INSTITUTE AND THE CONCRETE REINFORCING INSTITUTE

ALL BUILDING FLOOR SLABS SHALL BE STEEL TROWEL FINISHED

REINFORCING STEEL: ASTM A615 OR A616, GRADE 60. MINIMUM LAP LENGTH = 48 DIAMETERS

PROVIDE (1) #4 REBAR, 9'-0" LONG DIAGONALLY AT ALL CORNERS IN INTERIOR SLAB

STEEL

ALL STRUCTURAL STEEL FABRICATION AND ERECTION SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF THE AISC SPECIFICATIONS FOR THE DESIGN, FABRICATION, AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS AND THE AISC CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES.

STRUCTURAL STEEL: WF ASTM A992, PLATES, CHANNELS AND ANGLES - ASTM A36, TUBE ASTM A500 Fy=46 KSI

ALL BOLTS, NUTS AND WASHERS SHALL BE ASTM A325N UNLESS NOTED OTHERWISE

SPLICING OF STRUCTURAL STEEL IN PROHIBITED EXCEPT AS DETAILED

WELDING ELECTRODES AWS ASTM E-70XX

ALL WELDING SHALL BE DONE BY A QUALIFIED WELDER IN ACCORDANCE WITH THE LATEST EDITION OF THE AMERICAN WELDING SOCIETY STRUCTURAL WELDING CODE. ALL CONNECTIONS TO BE DESIGNED AND DETAILED BY A QUALIFIED PROFESSIONAL PAID BY THE CONTRACTOR.

CONNECTIONS: DESIGN AND DETAIL ALL CONNECTIONS FOR EACH MEMBER SIZE, STEEL GRADE AND CONNECTION TYPE TO RESIST THE LOADS AND REACTIONS INDICATED ON THE DRAWINGS OR SPECIFIED HEREIN. USE RATIONAL ENGINEERING DESIGN AND STANDARD PRACTICE INCLUDING, ACCOUNTING FOR ALL LOADS AND ECCENTRICITIES IN BOTH THE CONNECTION AND THE MEMBERS AND EXISTING FIELD CONDITIONS. THE DESIGN OF ALL CONNECTIONS IS SUBJECT TO THE REVIEW AND ACCEPTANCE OF THE CORE. SUBMIT STRUCTURAL CALCULATIONS PREPARED AND SEALED BY A QUALIFIED ENGINEER REGISTERED IN THE STATE WHERE THE PROJECT IS LOCATED. SUBMIT CALCULATIONS FOR REVIEW BEFORE PREPARATION OF DETAIL DRAWINGS.

STEEL JOISTS

OPEN WEB STEEL JOISTS SHALL BE DESIGNED, FABRICATED AND ERECTED IN ACCORDANCE WITH THE LATEST STEEL JOIST INSTITUTES SPECIFICATION AND RECOMMENDED CODE OF STANDARD PRACTICE

NO CONSTRUCTION LOADS SHALL BE PLACED ON JOISTS UNTIL BRIDGING IS INSTALLED AND BEARING CONNECTIONS HAVE BEEN BOLTED OR WELDED

STEEL DECK

THE DESIGN, FABRICATION AND ERECTION OF STEEL DECK SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF THE SDI SPECIFICATIONS AND COMMENTARY FOR STEEL ROOF DECK AND THE SDI DIAPHRAGM DESIGN MANUAL

MINIMUM LAP SHALL BE 2

FLOOR DECK BUNDLES SHALL BE PLACED ON JOISTS WITH EXTREME CAUTION, FOLLOWING THE JOIST MANUFACTURER'S RECOMMENDATIONS FOR PROPER PLACEMENT

CONTRACTOR SHALL BRACE ENTIRE STRUCTURE AS REQUIRED TO MAINTAIN STABILITY UNTIL COMPLETE AND FUNCTIONING AS THE DESIGNED UNIT

GENERAL

ALL DIMENSIONS PERTAINING TO EXISTING CONSTRUCTION TO BE FIELD VERIFIED BEFORE STARTING ANY WORK OR FABRICATION

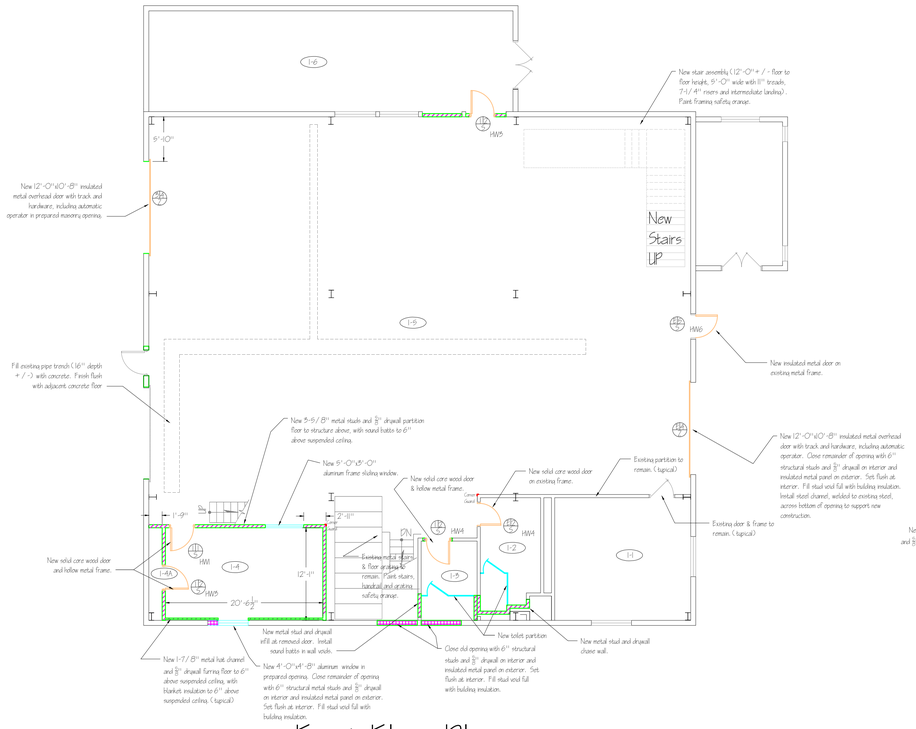
FLOOR LIVE LOAD: 100 PSF
EARTHQUAKE DESIGN DATA
SEISMIC USE GROUP: IV
SPECTRAL RESPONSE COEFFICIENTS
SDS = 0.126
SD1 = 0.079
SITE CLASS: D
BASIC SEISMIC FORCE RESISTING SYSTEM:
CONCENTRICALLY BRACED STEEL FRAMES
DESIGN BASE SHEAR = 9.7K (NEW MEZZANINE)
ANALYSIS PROCEDURE: EQUIVALENT LATERAL

Revisions	Date

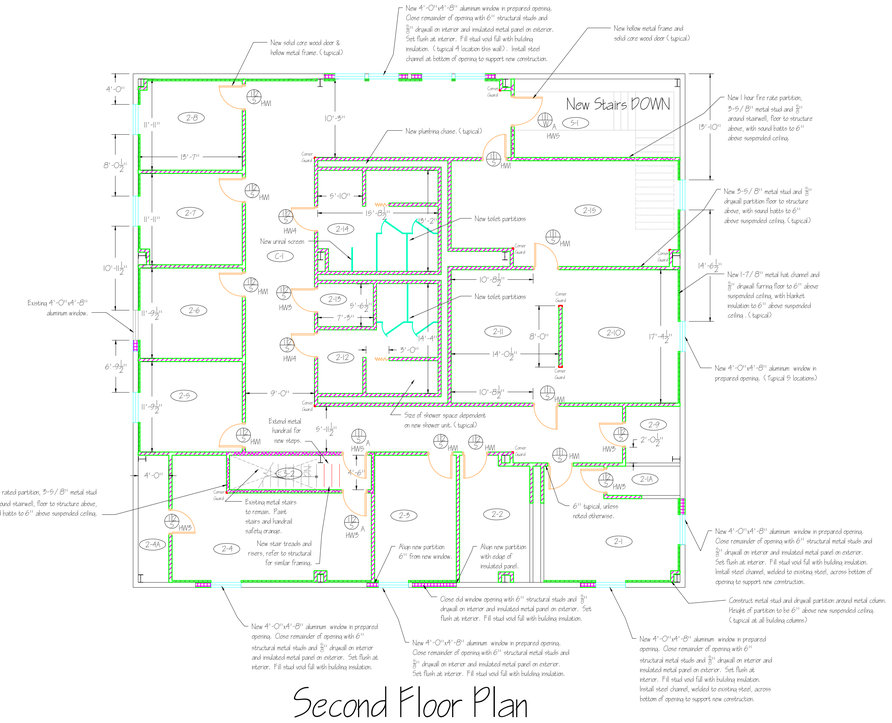
Refer to ALL other project drawings for related work.

Drawing Title: 2nd Floor Framing Plan & Details	Project Title: Rehab Bldg 259 For Fire Department		Date: March 2012
Approved: Assistant Chief, Engineering	Building Number: 259	Checked	Project No. 558-12-103
		Drawn: B. Bowen	DRAWING NO. 259-7 Dwg. 7 Of 19
Approved: Chief, Engineering	Location: Chillicothe, Ohio		

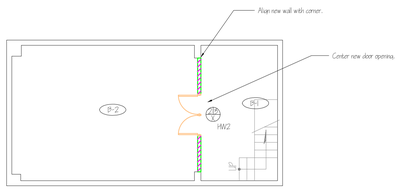
Planning & Design
Department of Veterans Affairs



First Floor Plan



Second Floor Plan



Basement Floor Plan

N

0 1 2 5 10 15 25 50

GRAPHIC SCALE
IN FEET

Drawing Scale: 1/8"=1'-0"
30x42 drawing sheet

NOTES:
1) Install new windows with bottom at 3'-0" above finish floor.

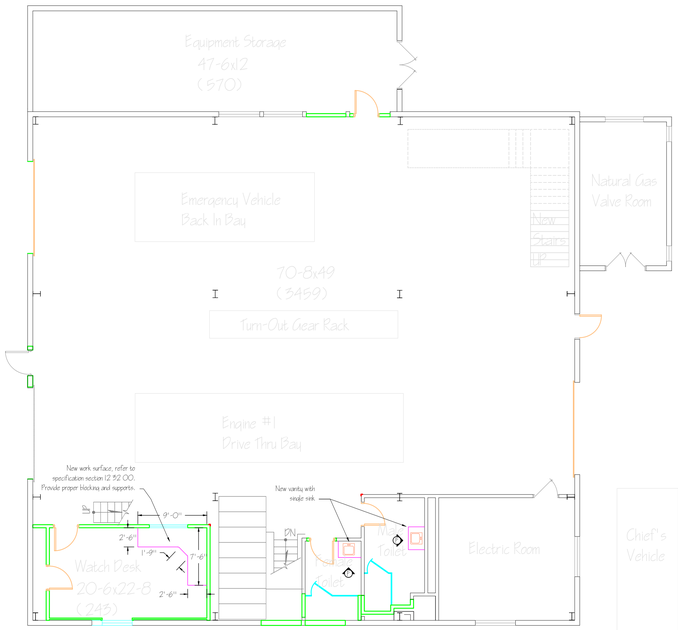
Revisions	Date

Refer to ALL other project drawings for related work.

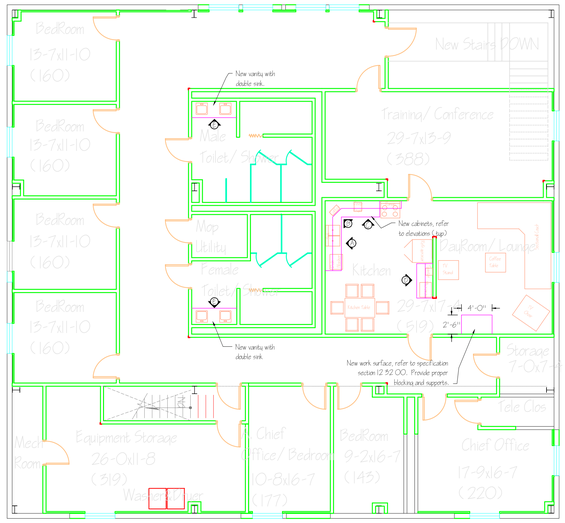
Drawing Title: New Architectural Floor Plans	Project Title: Rehab Bldg 259 For Fire Department			Date: Dec. 19, 2011
				Project No. 538-12-103
Approved: Assistant Chief, Engineering	Building Number: 259	Checked	Drawn: B. Ford	DRAWING NO. 259-8
Approved: Chief, Engineering	Location: Chillicothe, Ohio			Dwg. 8 Of 19

Planning & Design

Department of Veterans Affairs



First Floor Plan



Second Floor Plan

Note: Kitchen furniture & equipment is existing, except for new sink, new cabinets and new computer work surface . Provide necessary utilities for all Kitchen & DayRoom/ Lounge furniture & equipment. VA will relocate kitchen furniture & equipment when necessary.

Basement Floor Plan

N

0 1 2 5 10 15 25 50

GRAPHIC SCALE
IN FEET

Drawing Scale: $\frac{1}{8}$"=1'-0"
30x42 drawing sheet

Revisions	Date

Refer to ALL other project drawings for related work.

Drawing Title: Furniture/ Equipment Layout Plan

Project Title: Rehab Bldg 259 For Fire Department

Date: Dec. 19, 2011

Project No. 538-12-103

Approved: Assistant Chief, Engineering

Building Number: 259

Checked:

Drawn: B. Ford

DRAWING NO. 259-9

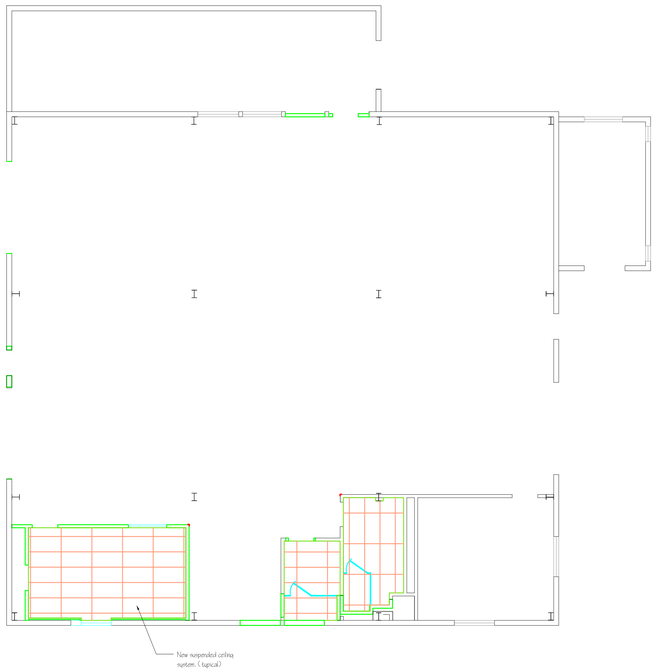
Dwg. 9 Of 19

Approved: Chief, Engineering

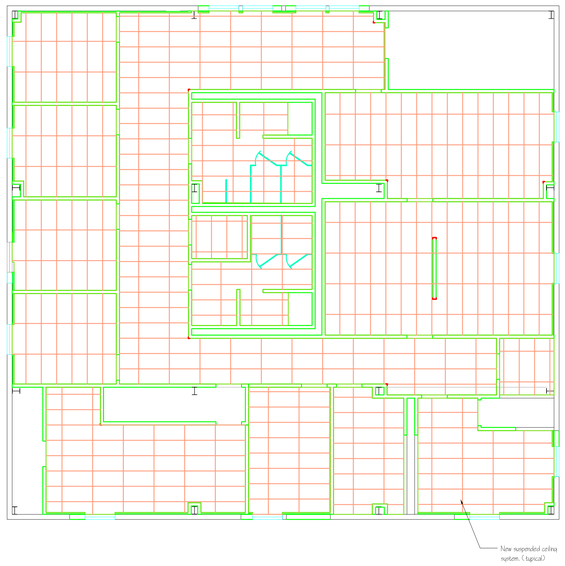
Location: Chillicothe, Ohio

Planning & Design

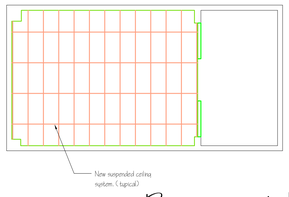
Department of Veterans Affairs



First Floor Plan



Second Floor Plan



Basement Floor Plan

NOTES:
1. New suspended ceiling height to be 9'-0", except toilet room ceiling height to be 8'-0".

N

0 1 2 5 10 15 25 50
GRAPHIC SCALE
IN FEET

Drawing Scale: 1/8"=1'-0"
30x42 drawing sheet

Revisions	Date

Refer to ALL other project drawings for related work.

Drawing Title: New Reflected Ceiling Plans

Project Title: Rehab Bldg 259 For Fire Department

Date: Dec. 19, 2011

Project No. 558-12-103

Approved: Assistant Chief, Engineering

Building Number: 259

Checked:

Drawn: B. Ford

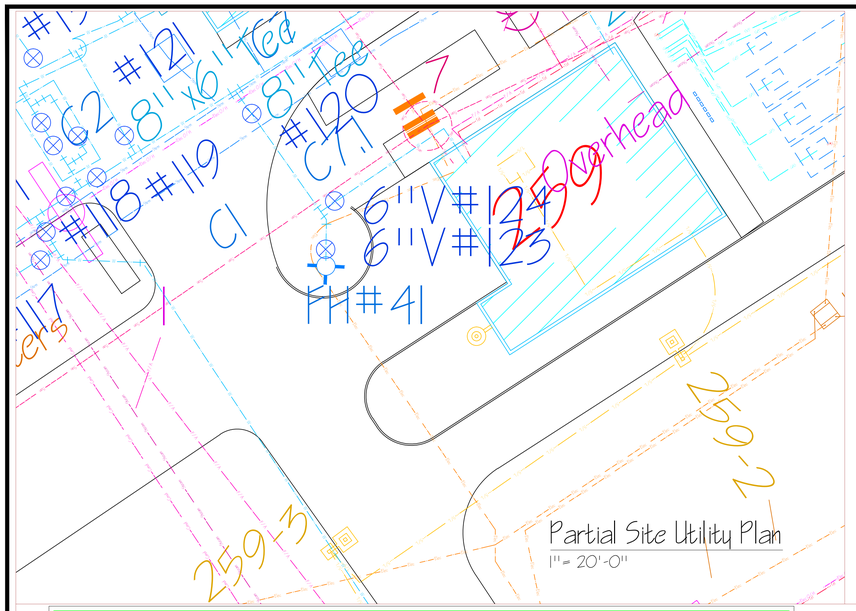
DRAWING NO. 259-10
Dwg. 1 Of 19

Approved: Chief, Engineering

Location: Chillicothe, Ohio

Planning & Design

Department of Veterans Affairs



Partial Site Utility Plan

1" = 20'-0"

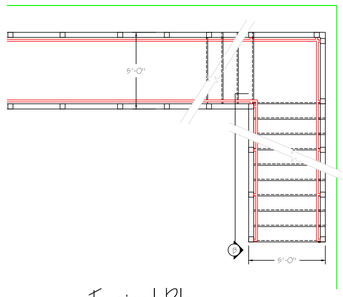
ROOM SCHEDULE

ROOM NO.	ROOM NAME	FLOOR NEW MTL.	FLOOR CO.	BASE NEW MTL. N	BASE E	BASE S	BASE W	BASE CO.	WALLS NEW MTL. N	WALLS E	WALLS S	WALLS W	WALLS CO.	WAINSCOT NEW MTL. N	WAINSCOT E	WAINSCOT S	WAINSCOT W	WAINSCOT CO.	REMARKS
B-1	Basement Entry	RT	RB1	RC			RC	RB5	P			P	RB5						
B-2	Exercise/ Weight Room	RT	RB1	RC			RC	RB5	P			P	RB5						
1-1	Generator Room	EX																	Existing to Remain
1-2	Mens Toilet	PP	PP1	PP			PP	PP1	PP			PP	PP1						
1-3	Womens Toilet	PP	PP1	PP			PP	PP1	PP			PP	PP1						
1-4	Watch Desk	SV	SV1	RC			RC	RB5	P			P	RB5						
1-4A	Mechanical Room	EX	EX	RC			RC	RB5	P			P	RB5						
1-5	Vehicle Bays	EX		EX			EX		P			P	RB5						
1-6	Storage	EX		EX			EX		P			P	RB5						
2-1	Fire Chief's Office	CT	C11	RC			RC	RB5	P			P	RB5						
2-1A	Communications Closet	VCT	RB5	RC			RC	RB5	P			P	RB5						
2-2	Fire Fighter BedRoom	CT	C12	RC			RC	RB5	P			P	RB5						
2-3	Assist Chief's Office/ BedRoom	CT	C12	RC			RC	RB5	P			P	RB5						
2-4	Equipment Storage	VCT	RB5	RC			RC	RB5	P			P	RB5						
2-4A	Mechanical Room	VCT	RB5	RC			RC	RB5	P			P	RB5						
2-5	Fire Fighter BedRoom	CT	C12	RC			RC	RB5	P			P	RB5						
2-6	Fire Fighter BedRoom	CT	C12	RC			RC	RB5	P			P	RB5						
2-7	Fire Fighter BedRoom	CT	C12	RC			RC	RB5	P			P	RB5						
2-8	Fire Fighter BedRoom	CT	C12	RC			RC	RB5	P			P	RB5						
2-9	Storage Closet	VCT	RB5	RC			RC	RB5	P			P	RB5						
2-10	Day Room/ Lounge	CT	C14	RC			RC	RB5	P			P	RB5						
2-11	Kitchen	SV	SV1	RC			RC	RB5	P			P	RB5						
2-12	Female Toilet/ Shower	PP	PP1	PP			PP	PP1	PP			PP	PP1						
2-13	Utility Closet	PP	PP1	PP			PP	PP1	PP			PP	PP1						
2-14	Male Toilet/ Shower	PP	PP1	PP			PP	PP1	PP			PP	PP1						
2-15	Training/ Conference Room	CT	C15	RC			RC	RB5	P			P	RB5						
C-1	2nd Floor Corridor	VCT	RB5	RC			RC	RB5	P			P	RB5						
S-1	Southeast Stair	RTD	RB5	RC			RC	RB5	P			P	RB5						
S-2	Northwest Stair	RTD	RB5	RC			RC	RB5	P			P	RB5						

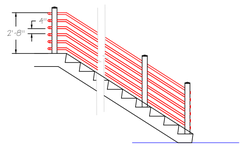
Finishes Legend

Abbreviation	Full Text	Design Information
RT	Rubber Tile	Nora Environcare Rubber Floor Tile
EX	Existing	Existing Finish to Remain
PP	Porcelain Pavers	Dal-Tile Colorado Slate Tile
SV	Sheet Vinyl	Armstrong Realitiles Sheet Vinyl
CT	Carpet	C1, Shaw Clarity, Birch; C2, Shaw Space, Steeling Beauty; C3, Shaw Clarity, Gravel; C4, Shaw Mosaic, Exotic.
VCT		
RTD	Vinyl Composition Tile	Vinyl Composition Tile
P	Rubber Treads	Rubber Treads
RB5	Paint	Paint
RB5	Paint	To Be Selected by Owner

Note: Listed finishes are provided for color and texture information. Other manufacturers that meet or exceed specification requirements may be submitted for review, provided listed color and/ or texture is available.



Typical Plan



Elevation B
Stair Handrail

Stairs Details

1/ 4" = 1'-0"

Note: Stairs structural support system not shown for clarity of handrail. Stairs support system to be included as part of the stairs system.

Doors and Frames Information

DOOR SIZES

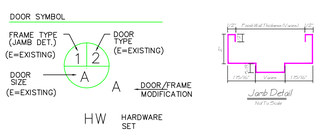
MARK	WIDTH	HEIGHT
M	1'-6"	7'-0"
N	2'-0"	7'-0"
P	2'-4"	7'-0"
Q	2'-6"	7'-0"
S	3'-0"	7'-0"
T	3'-4"	7'-0"
U	3'-6"	7'-0"
W	3'-8"	7'-0"
X	2'-6" (double)	7'-0"
Z	12'-0"	10'-8"

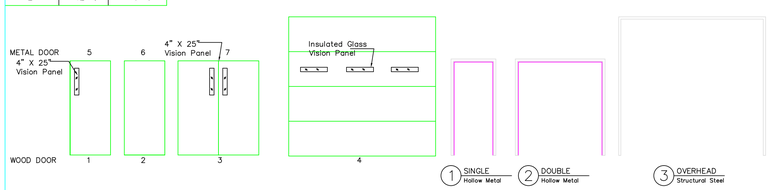
NOTES :

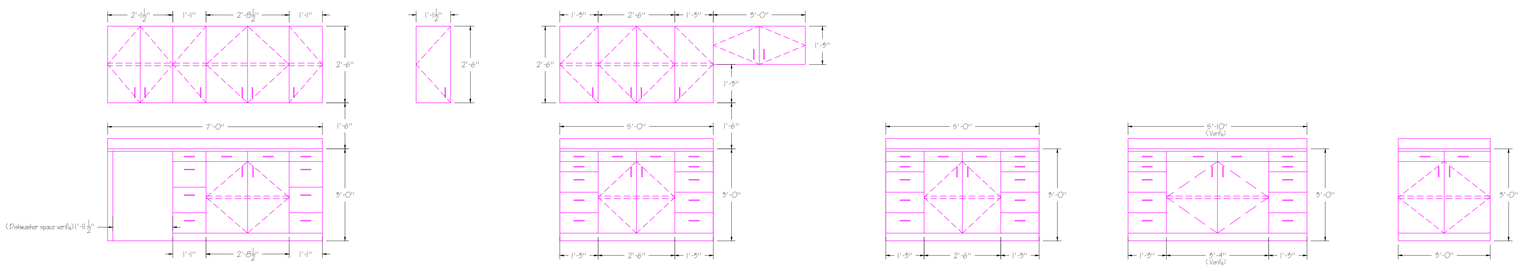
1. ALL DOORS SHALL BE FLUSH SOLID CORE WOOD & 1 3/4" THICK UNLESS NOTED OTHERWISE.
2. TOP & SIDE RAILS SHALL BE 9" MIN., BOTTOM RAILS 12" MIN.
3. ALL NEW DOOR FRAMES SHALL BE HOSPITAL STOP STYLE, UNLESS NOTED OTHERWISE.

DOOR MODIFICATIONS

A. ONE (1) HOUR RATED DOOR/FRAME







Cabinet 'A' | Cabinet 'B' | Cabinet 'C' | Cabinet 'D' | Cabinet 'E' | Cabinet 'F'

Cabinets Elevations

½" = 1'-0"

Revisions	Date

Refer to ALL other project drawings for related work.

Drawing Title: Misc. Details/ Information

Project Title: Rehab Bldg 259 For Fire Department

Date: Dec. 19, 2011

Project No. 538-12-103

Approved: Assistant Chief, Engineering

Building Number: 259

Checked:

Drawn: B. Ford

DRAWING NO. 259-11

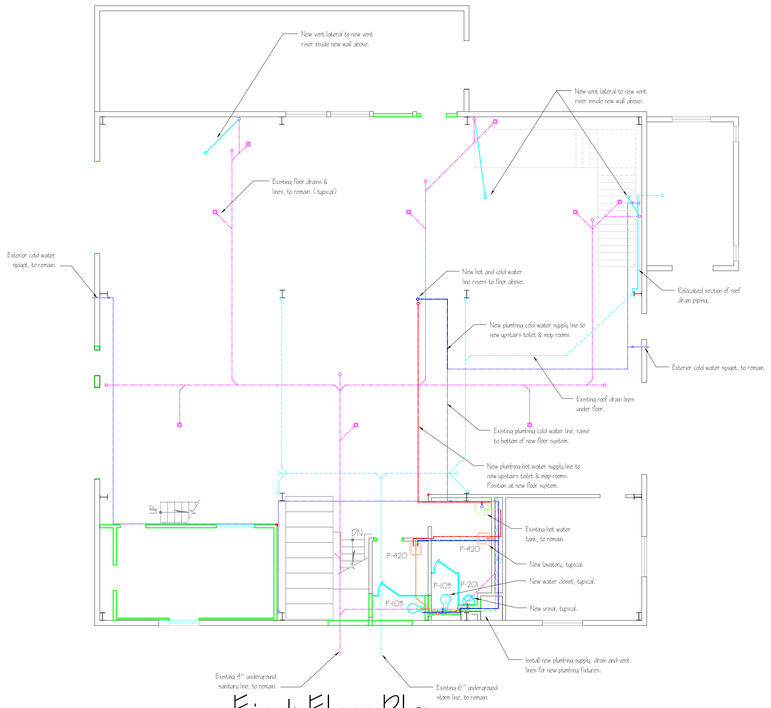
Dwg. 11 Of 19

Approved: Chief, Engineering

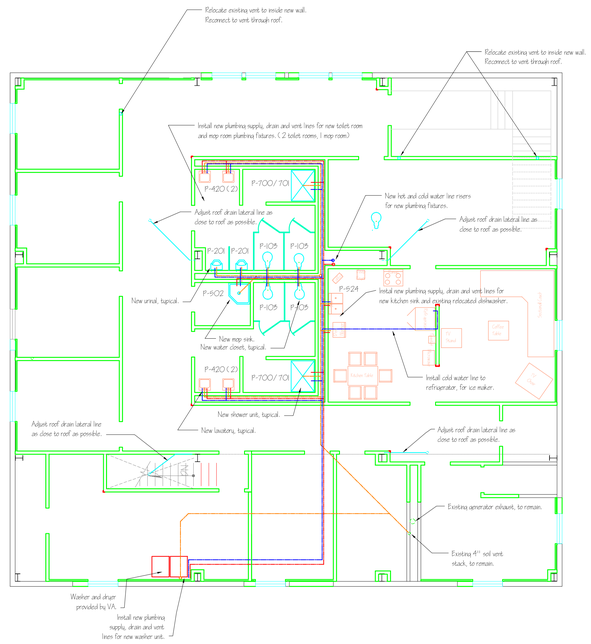
Location: Chillicothe, Ohio

Planning & Design

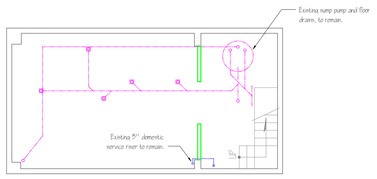
Department of Veterans' Affairs



First Floor Plan

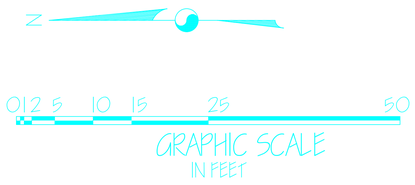


Second Floor Plan



Basement Floor Plan

NOTES:
1. Refer to New Sprinkler plan for related work.
2. Install new water shut off valves on new water main risers and laterals.



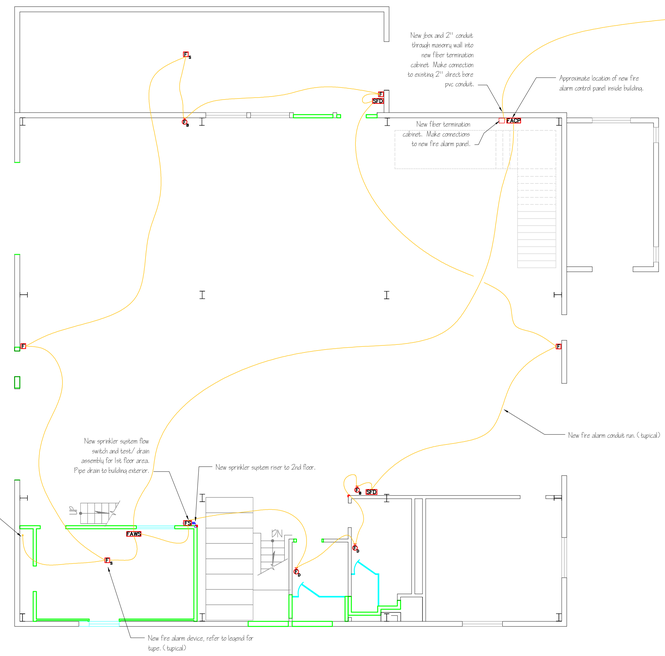
Drawing Scale: 1/8"=1'-0"
30x42 drawing sheet

Revisions	Date

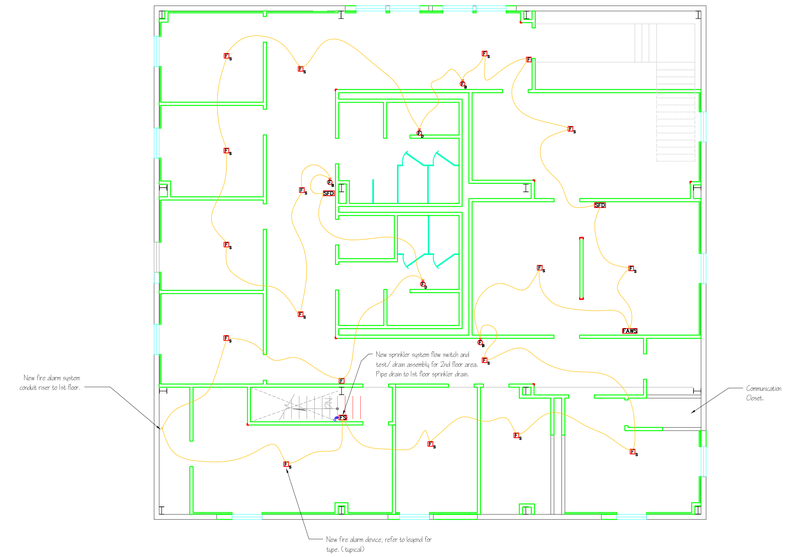
Refer to ALL other project drawings for related work.

Drawing Title: New Plumbing Plans	Project Title: Rehab Bldg 259 For Fire Department		Date: Dec. 19, 2011
			Project No. 558-12-103
Approved: Assistant Chief, Engineering	Building Number: 259	Checked	Drawn: B. Ford
Approved: Chief, Engineering	Location: Chillicothe, Ohio		DRAWING NO. 259-12 Dwg. 12 Of 19

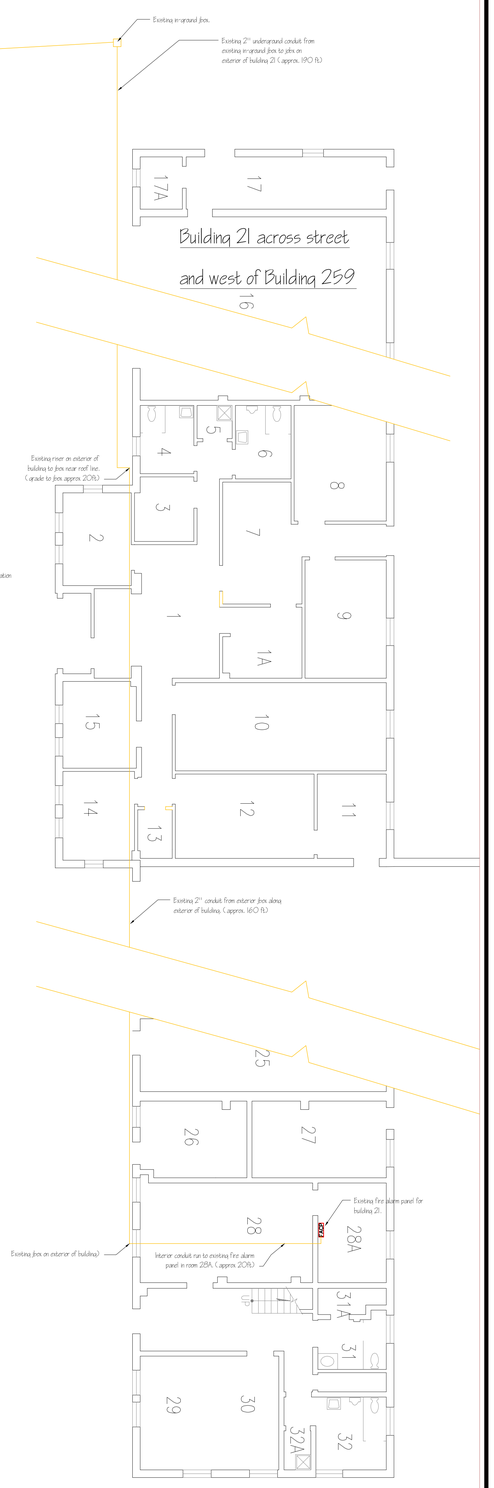
Planning & Design
Department of Veterans Affairs

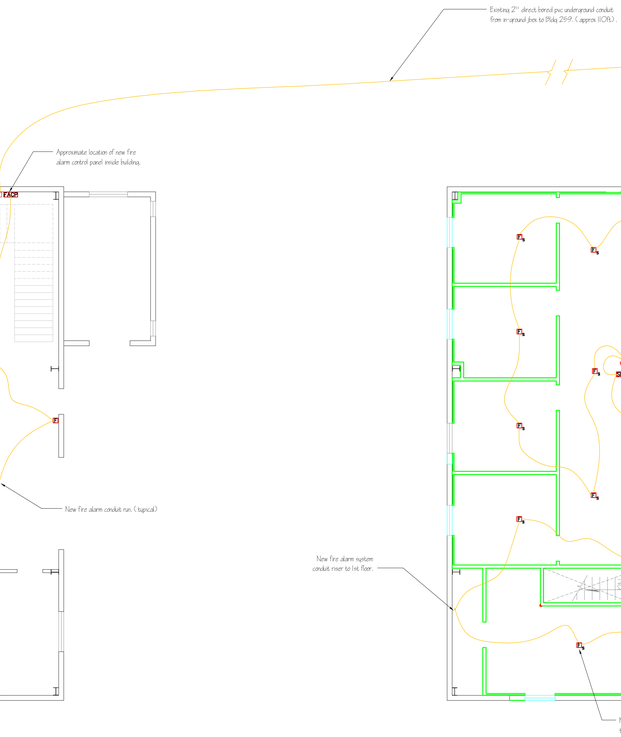


First Floor Plan



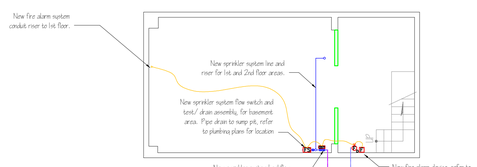
Second Floor Plan



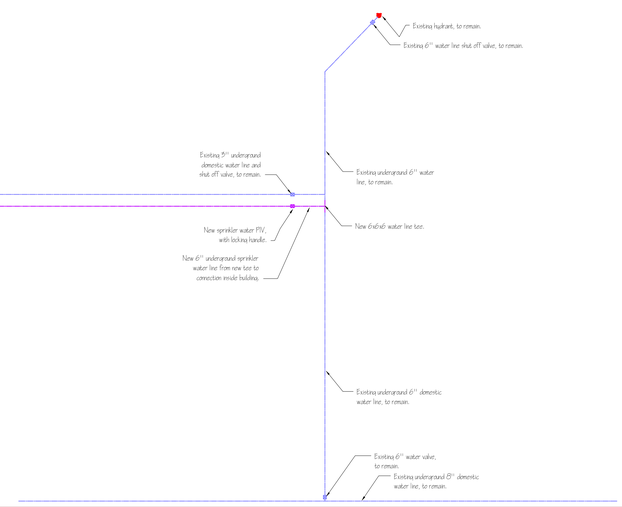


New Fire Alarm Device Legend

- FACP — Facility Fire Alarm Device
- FS — Sprinkler Water Flow Switch
- WCV — Sprinkler Water Valve Supervisory Switch
- F — Fire Alarm Manual Pull Station
- F SD — Smoke Detector Duct type
- F — Smoke Detector
- Fire Alarm Audible/ Visual (Strobe Only)
- Fire Alarm Audible/ Visual (Horn & Strobe)
- FACP — Fire Alarm Control Panel
- FAWS — Fire Alarm Web Station



Basement Floor Plan



Notes:
1. Building to be Fully Sprinkler protected. Occupancy classification to be Industrial per NFPA Life Safety Code 101.
2. Refer to New Plumbing plan for related work.
3. Hydrant #41 information: Static Pressure, 74 psi; Residual Pressure, 60 psi; Pitot Pressure, 24 psi; Water Flow, 822 gpm.
4. Fire alarm system shall be Manufactured by Simplex Grinnell. Contact Mr. Bill Fondaulis as (614) 602-0471.
5. All fire alarm work shall comply with VA Fire Protection Design Manual, current edition, available online at HTTP://WWW.CFM.VA.GOV/TL/DManual/DMFPFire.doc
6. Recess mount all new fire alarm devices in new drywall stud walls. Surface mount new fire alarm devices on existing partitions. Utilize finished backboxes (N.O. construction not permitted) painted to match wall surface. In finished areas of the building, utilize surface metal raceway (wiremold V500 series or equal) to above accessible ceilings. Transition to 0.75" conduit once above ceiling. In unfinished areas with exposed structure, utilize exposed 0.75" conduit for all new wiring/ cabling.
7. Install new 6 strand fiber optic cable from existing fire alarm panel in Bldg 21 room 28A to new fire alarm panel in Bldg 259. Furnish and install all necessary components at both fire alarm panels and make fiber connection.

N

0 1 2 5 10 15 25 50

GRAPHIC SCALE
IN FEET

Drawing Scale: 1/8"=1'-0"
30x42 drawing sheet

Revisions	Date

Refer to ALL other project drawings for related work.

Drawing Title: New Sprinkler & Fire Alarm Plans	Project Title: Rehab Bldg 259 For Fire Department		Date: Dec. 19, 2011
			Project No. 538-12-103
Approved: Assistant Chief, Engineering	Building Number: 259	Checked	Drawn: B. Ford
Approved: Chief, Engineering	Location: Chillicothe, Ohio		DRAWING NO. 259-13 Dwg. 13 Of 19

Planning & Design

Department of Veterans Affairs

DRAWING SYMBOLS

259-BC1
- BUILDING NO. WHERE EQUIPMENT IS LOCATED.
- EQUIPMENT ABBREVIATION (SUPPLY FAN)
- BRANCH CONTROLLER NO.1 IN BUILDING NO. 259
- TYPICAL UNIT NO.

259-01
- DX VRF FAN COIL UNIT DESIGNATION
- UNIT NUMBER. REFER TO DX VRF FAN COIL UNIT SCHEDULE

DUCTWORK SYMBOLS

- CEILING DIFFUSERS (FOUR WAY BLOW UNLESS OTHERWISE NOTED)
- EXHAUST OR RETURN CEILING REGISTER OR GRILLE
- VANED ELBOW (PROVIDE ALL SQUARE OR RECTANGULAR ELBOWS WITH VANES EVEN IF SYMBOL IS MISSING)
- STANDARD RADIUS ELBOW
- 10/8 — NEW DUCT – WIDTH X DEPTH
- MANUAL VOLUME DAMPERS

AIR CONDITIONING

- R — INSULATED REFRIGERANT LIQUID AND SUCTION PIPING
- D — COOLING COIL CONDENSATE DRAIN LINE

GENERAL

- DIRECTION OF PIPE PITCH (DOWN)
- RISE OR DROP IN PIPE

ABBREVIATIONS

A	AMPS
AD	ACCESS DOOR
AFF	ABOVE FINISHED FLOOR
AHU	AIR HANDLING UNIT
AP	ACCESS PANEL
ATC	AUTOMATIC TEMPERATURE CONTROLS
BC	BRANCH CONTROLLER
BIW	BACKWARD INCLINED WHEEL
BTUH	BRITISH THERMAL UNITS PER HOUR
CC	COOLING COIL
CD	CEILING DIFFUSER
CFM	CUBIC FEET PER MINUTE
CG	CEILING GRILLE
CO	CLEAN OUT
CONV	CONVECTOR
CR	CEILING REGISTER
CU	CONDENSING UNIT
CUH	CABINET UNIT HEATER
CW	COLD WATER
D	AUTOMATIC CONTROL DAMPER
Db	DRY BULB TEMPERATURE, DEG. F
DDC	DIRECT DIGITAL CONTROLS
DEG. F	DEGREES FAHRENHEIT
DHC	DUCT HEATING COIL
DX	DIRECT EXPANSION
E/A	EXHAUST AIR
ECL	ETCHED CLEAR LACQUER
ERV	ENERGY RECOVERY VENTILATOR
E.S.P.	EXTERNAL STATIC PRESSURE
EX.	EXISTING
FC	FLEXIBLE CONNECTION
FCU	FAN COIL UNIT
FCW	FORWARD CURVED WHEEL
FLR.	FLOOR
FD	FLOOR DRAIN
F.DPR.	FIRE DAMPER
H	HEIGHT
HC	HEATING COIL
HP	HORSEPOWER
KW	KILOWATT
KW/H	KILOWATTS PER HOUR
L	LENGTH
MER	MECHANICAL EQUIPMENT ROOM
MERV	MINIMUM EFFICIENCY REPORTING VALUE
MAX.	MAXIMUM
MCA	MINIMUM CIRCUIT AMPS
MIN.	MINIMUM
MOCP	MAXIMUM OVERCURRENT PROTECTION
NOM.	NOMINAL
O/A	OUTSIDE AIR
PD	PRESSURE DROP (FEET OF WATER)
PF	PRE–FILTER
Rh	RELATIVE HUMIDITY
S/A	SUPPLY AIR
SP	STATIC PRESSURE (INCHES OF WATER)
TR	TOP REGISTER (WALL TYPE)
TYP	TYPICAL
U/C	DOOR UNDERCUT BY GENERAL CONTRACTOR
VD	VOLUME DAMPER (MANUAL OPPOSED BLADE)
VRV	VARIABLE REFRIGERANT VOLUME
W	WIDTH
Wb	WET BULB TEMPERATURE, DEG. F
WBE	WHITE BAKED ENAMEL
W.G.	WATER GAUGE

GENERAL NOTES

1 N/A

2 ALL PIPING AND DUCTS IN FINISHED ROOMS OR SPACES SHALL BE CONCEALED IN FURRED CHASE OR ABOVE THE SUSPENDED CEILING.

3 THE FIRST FIGURE OF DUCT SIZE INDICATES DIMENSION OF FACE SHOWN OR INDICATED.

4 DIFFUSER, REGISTER AND GRILLE SIZES SHOWN ON FLOOR PLANS ARE NECK SIZES.

5 REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATION OF CEILING DIFFUSERS, REGISTERS AND GRILLES.

6 N/A

7 TERMINATE PIPING AND DUCTWORK BELOW FLOORS, ABOVE CEILINGS, ETC., IN CONCEALED SPACES. ALL CUTTING AND PATCHING SHALL MATCH EXISTING FINISHES.

8 FIELD VERIFY EXISTING CONDITIONS, INCLUDING DUCT, PIPE AND EQUIPMENT SIZES, SERVICES AND LOCATIONS PRIOR TO PERFORMING WORK.

9 REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.

10 THE CONTRACT DRAWINGS ARE NOT INTENDED TO SHOW EVERY VERTICAL OR HORIZONTAL OFFSET WHICH MAY BE NECESSARY TO COMPLETE THE SYSTEMS. COORDINATE WORK IN ADVANCE WITH ALL OTHER TRADES AND REPORT IMMEDIATELY ANY DIFFICULTIES WHICH CAN BE ANTICIPATED.

11 N/A

12 ALL ITEMS THAT REQUIRE ACCESS, SUCH AS FOR OPERATING, CLEANING, SERVICING, MAINTENANCE, AND CALIBRATION, SHALL BE EASILY AND SAFELY ACCESSIBLE BY PERSONS STANDING AT FLOOR LEVEL, OR STANDING ON PERMANENT PLATFORMS, WITHOUT THE USE OF PORTABLE LADDERS. EXAMPLES OF THESE ITEMS INCLUDE, BUT ARE NOT LIMITED TO: ALL TYPES OF VALVES, FILTERS AND STRAINERS, TRANSMITTERS, CONTROL DEVICES. PRIOR TO COMMENCING INSTALLATION WORK, REFER CONFLICTS BETWEEN THIS REQUIREMENT AND CONTRACT DRAWINGS TO THE PROJECT ENGINEER FOR RESOLUTION.

13 SEISMIC PROVISIONS NOT REQUIRED.

14 ALL PRESSURES LISTED ARE GAGE PRESSURE UNLESS OTHERWISE NOTED.

15 ALL CUTTING AND PATCHING REQUIRED FOR THE HVAC WORK SHALL BE INCLUDED IN THE HVAC CONTRACT. REFINISH ANY SURFACE DISTURBED UNDER THIS WORK TO MATCH EXISTING.

16 IN GENERAL, KEEP DUCT AND PIPING MAINS NEXT TO UNDERSIDE OF STRUCTURE.

17 WHERE CONTROL DEVICES ARE REMOVED, PNEUMATIC LINES SHALL BE REMOVED BACK TO MAIN AND CAPPED.

18 WHERE DUCTS OR PIPES ARE REMOVED THRU WALL/FLOOR/ROOF THAT IS TO REMAIN, PATCH WALL/FLOOR/ROOF OPENING TO MATCH EXISTING WHERE OPENING IS NOT RE–USED.

INDEX OF HVAC DRAWINGS

SHEET	DESCRIPTION
14	INDEX, LEGEND, AND GENERAL NOTES
15	NEW HVAC PLANS, AND SCHEDULES
16	DETAILS, AND CONTROL SEQUENCES
17	DETAILS

Revisions	Date

Refer to ALL other project drawings for related work.

Drawing Title: HVAC Dwg Index, Legend & General Notes

Approved: Chief, Engineering Service

Project Title: Rehab Bldg 259 For Fire Department

Building Number: 259 | Checked: | Drawn: KFC

Location: Chillicothe, Ohio

Date: Dec. 28, 2011

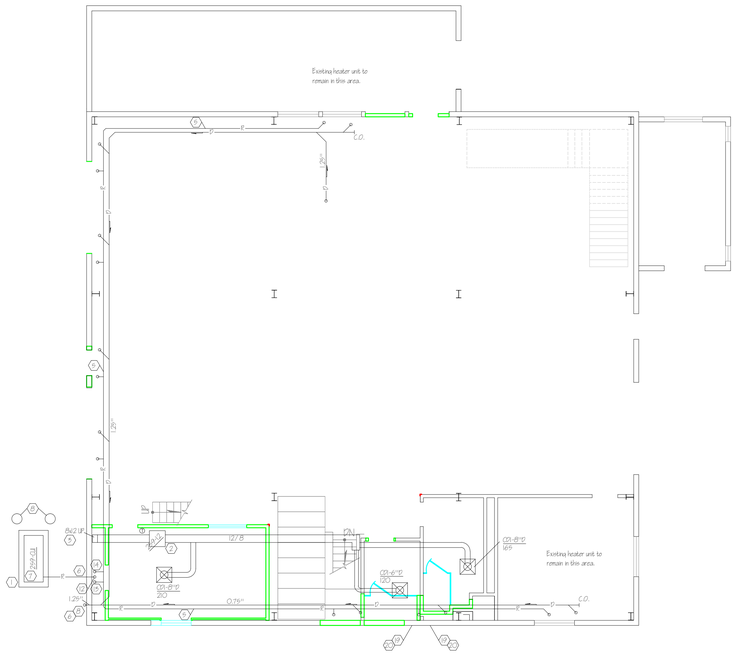
538-12-103

Drawing Number: 259-14

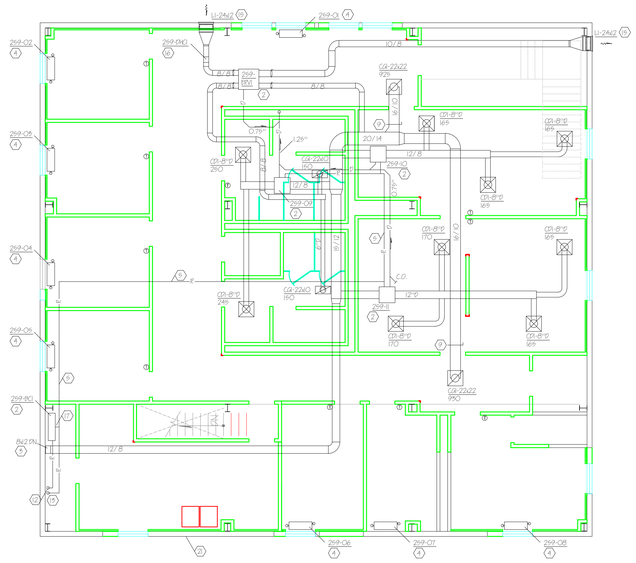
Dwg. 14 of 19

Planning & Design

Department of Veterans Affairs



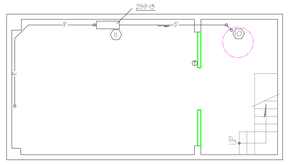
First Floor Plan



Second Floor Plan

NOTES

1. PROVIDE NEW 6" HIGH 4000 PSI AIR ENTRAINED CONCRETE EQUIPMENT PAD PER CONDENSING UNIT PAD DETAIL ON SHEET 16. EXTEND PAD 6" BEYOND EQUIPMENT ON ALL FOUR SIDES.
2. SUSPEND UNIT FROM OVERHEAD STRUCTURE.
3. DUCT PASSES THROUGH SECOND FLOOR SLAB. PROVIDE DYNAMIC TYPE "C" FIRE DAMPER AT FLOOR PENETRATION WITH ACCESS FROM THE FIRST FLOOR.
4. FLOOR MOUNTED FAN COIL UNIT. REFER TO FAN COIL UNIT SCHEDULE ON THIS SHEET.
5. PROVIDE REFRIGERANT PIPING AND ACCESSORIES PER MANUFACTURER'S RECOMMENDATIONS AND PER SPEC SECTION 23 23 00. LINE REPRESENTS APPROXIMATE ROUTE OF PIPING. PROVIDE INSULATED LIQUID AND INSULATED SUCTION PIPING FROM 259-BC1 TO EACH FAN COIL UNIT INDIVIDUALLY.
6. SEAL PIPING PENETRATION WATER TIGHT.
7. INSTALL CONDENSING UNIT PER MANUFACTURER'S RECOMMENDATIONS. MAINTAIN ALL REQUIRED SERVICE CLEARANCES.
8. EXTEND CONDENSATE DRAIN PIPE DOWN WALL AND TERMINATE. PROVIDE SPLASH BLOCK.
9. OUTSIDE AIR MANUAL BALANCING DAMPER. REFER TO FAN COIL SCHEDULE ON THIS SHEET FOR REQUIRED CFM.
10. TERMINATE CONDENSATE DRAIN PIPE INTO EXISTING SUMP.
11. MOUNT UNIT ON WALL APPROXIMATELY 7'-0" A.F.F.
12. SECOND FLOOR SLAB PENETRATION FOR REFRIGERANT PIPING BETWEEN EXTERNAL CONDENSING UNIT 259-CU1 AND BRANCH CONTROLLER 259-BC1.
13. SECOND FLOOR SLAB PENETRATION FOR REFRIGERANT PIPING TO/FROM INDIVIDUAL FAN COIL UNITS.
14. FIRST FLOOR SLAB PENETRATION FOR REFRIGERANT PIPING TO/FROM BASEMENT FAN COIL UNIT 259-13.
15. AUTO DAMPER. REFER TO CONTROL SEQUENCE ON SHEET 16.
16. ELECTRIC DUCT HEATING COIL. REFER TO CONTROL SEQUENCE ON SHEET 16.
17. PROVIDE SHUT-OFF VALVE AT EACH FAN COIL UNIT CONNECTION.
18. PROVIDE BOLLARD PER DETAIL ON SHEET 16. COORDINATE EXACT LOCATION WITH CO.T.R.
19. INSTALL NEW OVERHEAD LAY-IN RESTROOM EXHAUST FAN POWERED FROM LIGHT CIRCUIT. FAN TO RUN WHEN LIGHT IS ON.
20. INSTALL NEW EXHAUST FOR RESTROOM FAN THROUGH EXTERIOR MASONRY WALL. EXHAUST DUCT TO INCLUDE RAIN SHIELD AND BIRD/INSECT DAMPER/SCREEN AT EXTERIOR.
21. INSTALL NEW EXHAUST FOR DRYER UNIT THROUGH EXTERIOR MASONRY WALL. EXHAUST DUCT TO INCLUDE RAIN SHIELD AND BIRD/INSECT DAMPER/SCREEN AT EXTERIOR.



Basement Floor Plan

DUCT PRESSURE CLASS & LEAKAGE TABLE

SYSTEM	DUCT INVOLVED	POSITIVE (P) OR NEGATIVE (N) PRESSURE	SMACNA CONST. CLASS W.G.	SMACNA SEAL CLASS	SMACNA LEAKAGE CLASS	
					RECTANGULAR DUCT	ROUND DUCT
ALL SYSTEMS	ALL DUCTWORK EXCEPT AS LISTED BELOW.	P/N	±2"	A	12	6
	SUPPLY AIR DUCTS FROM OUTLET OF VRV UNITS TO SUPPLY AIR DEVICES	P	1"	A	24	12
	GENERAL EXHAUST DUCTS	N	−2"	A	12	6
	OUTSIDE AIR DUCTS	N	−2"	A	12	6

AIR DISTRIBUTION DEVICES

SYMBOL	DESCRIPTION	TYPE MOUNTING		MATERIAL		FINISH		ACCESSORIES	SEE NOTE
		LAY-IN	SURFACE	STEEL	ALUM.	E.C.L.	W.B.E.		
CD1	STANDARD SQ. CONE CEILING DIFFUSER ROUND NECK	●		●			●		
CG1	EGGCRATE CEILING GRILLE	●			●		●		
L1	LOUVER	PROVIDED BY G.C.							

EQUIPMENT DATA

259-CU1
VARIABLE REFRIGERANT FLOW ZONING OUTDOOR UNIT
INVERTER-DRIVEN COMPRESSOR-R410A REFRIGERANT
NOMINAL CAPACITY: 192,000 BTU/HR COOLING
216,000 BTU/HR HEATING
ELECTRIC: 208 VOLT, 3 PHASE, 2 @ 24 MCA, 40 MOCP
SIZE: 73"L x 30"W x 65" HIGH

259-BC1
BRANCH CONTROLLER - 16 BRANCHES (MAIN BC CONTROLLER)
NOMINAL CAPACITY: 4.5 TONS PER BRANCH
POWER SOURCE: 208/230V 1PH 60HZ
MCA: 1.65A
MOP: 15A
HEATING POWER INPUT: 0.106 KW/H
COOLING POWER INPUT: 0.207 KW/H
HEATING STARTING CURRENT: 0.51/0.46 A
COOLING STARTING CURRENT: 1.04/0.94 A
NET WEIGHT: 162 LBS
REFRIGERANT: R410A
APPROX. DIMENSIONS: 11"x45"x20"

259-ERV1
ENERGY RECOVERY VENTILATOR
CAPACITY: 600 CFM
ELECTRIC: 208V - 1PH; MCA 3.7 AMP; MOCP 15AMP
MOTOR: 0.92 HP INDUCTION MOTOR
STATIC PRESSURE: 0.75"
TEMPERATURE RECOVERY EFFICIENCY: 69%
ENTHALPHY RECOVERY EFFICIENCY: HEATING 62% COOLING 44%
PROVIDE WITH CONTROLLER AND INTERLOCK WITH VARIABLE REFRIGERANT FLOW SYSTEM.
BALANCE EXHAUST FAN TO 500 CFM.
BALANCE SUPPLY FAN TO 350 CFM.

ELECTRIC DUCT HEATING COIL SCHEDULE

UNIT NO.	LOCATION	CFM	ENT. AIR DEG. F	UNIT POWER		MIN. BTUH	SEE NOTE
				KW	VOLT. PHASE		
259-DHC1	OUTSIDE AIR SUPPLY	350	0	5	208-3	17,060	1,2

NOTES :
1. UNIT SHALL BE ENERGIZED ON A CALL FOR HEAT FROM ASSOCIATED INDOOR VRF UNIT.
2. HEATER SHALL BE DUCT MOUNTED. PROVIDE MOUNTING BRACKETS AND HARDWARE.

HVAC DESIGN DATA

OUTDOOR DESIGN TEMPERATURES — 95 DEG. F Db SUMMER; 78 DEG. F Wb SUMMER; 0 DEG. F Db WINTER — DESIGN ALTITUDE: 638 FT.

INDOOR AREA DESIGN CONDITIONS	SUMMER		WINTER	
	Db (°F)	% HUMIDITY	Db (°F)	% HUMIDITY
ALL AREAS	75	50	72	–

DX VRF FAN COIL UNITS

UNIT NO. (1)	TYPE	FAN CFM	O/A CFM	COOLING CAPACITY (BTUH)	HEATING CAPACITY (BTUH)	FAN MOTOR			APPROXIMATE SIZE			SEE NOTE
						E.S.P.	WATTS	VOLT-PHASE	L	W	H	
259-01	FLOOR MOUNTED	280	–	8000	9000	–	20	208-1	32	8	28	
259-02	FLOOR MOUNTED	210	–	6000	6700	–	17	208-1	32	8	28	
259-03	FLOOR MOUNTED	210	–	6000	6700	–	17	208-1	32	8	28	
259-04	FLOOR MOUNTED	210	–	6000	6700	–	17	208-1	32	8	28	
259-05	FLOOR MOUNTED	210	–	6000	6700	–	17	208-1	32	8	28	
259-06	FLOOR MOUNTED	210	–	6000	6700	–	17	208-1	32	8	28	
259-07	FLOOR MOUNTED	210	–	6000	6700	–	17	208-1	32	8	28	
259-08	FLOOR MOUNTED	280	–	8000	9000	–	20	208-1	32	8	28	
259-09	HORIZONTAL DUCTED	495	80	15000	17000	.8	130	208-1	35	29	15	3
259-10	HORIZONTAL DUCTED	495	80	15000	17000	.8	130	208-1	35	29	15	3
259-11	HORIZONTAL DUCTED	670	110	24000	27000	.8	180	208-1	35	29	15	3
259-12	HORIZONTAL DUCTED	495	80	15000	17000	.8	130	208-1	35	29	15	2,3
259-13	WALL HUNG	280	–	8000	9000	–	20	208-1	32	6	11	

NOTES :
1. CONTACT PLANT ENGINEERING FOR ACTUAL BOX NUMBER.
2. PROVIDE FBM SERIES FILTER BOX WITH 2" THICK PLEATED, MERV 13 FILTER WITH UNIT.
3. PROVIDE OUTPUT SIGNAL TO ENERGIZE ASSOCIATED SUPPLEMENTAL ELECTRIC DUCT HEATING COIL WHEN SUPPLEMENTAL HEAT IS REQUIRED TO SATISFY SPACE TEMPERATURE SETPOINT.

GRAPHIC SCALE IN FEET
0 1 2 5 10 15 25 50

Drawing Scale: 1/8"=1'-0"
30x42 drawing sheet

Revisions	Date

Refer to ALL other project drawings for related work.

Drawing Title: New HVAC Plans

Project Title: Rehab Bldg 259 For Fire Department

Date: Dec. 28, 2011

Project No. 538-12-103

Approved: Assistant Chief, Engineering

Building Number: 259

Checked:

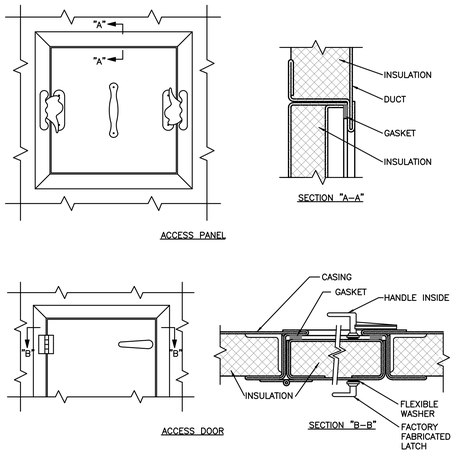
Drawn: KFC

DRAWING NO. 259-15
Dwg. 15 Of 19

Approved: Chief, Engineering

Location: Chillicothe, Ohio

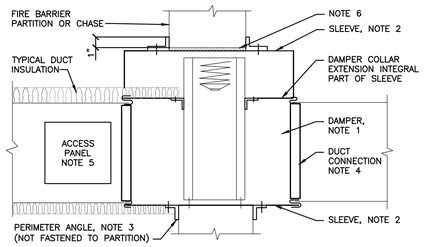
Planning & Design
Department of Veterans Affairs



NOTES:

1. LATCHES SHALL BE OF THE WEDGE TYPE TO CLOSE DOORS TIGHTLY.
2. HINGES ON THE ACCESS DOORS SHALL HAVE NON–CORROSIVE PINS.
3. SEE SMACNA 2005, FIGURE 9–15

ACCESS PANEL AND DOOR DETAIL



NOTES:

1. A VERTICAL DAMPER IS SHOWN. HORIZONTAL DAMPER INSTALLATION, IS SIMILAR. FOLLOW DAMPER MANUFACTURER'S INSTRUCTIONS, INCLUDING FASTENER OPTIONS AND GAGES FOR SLEEVE AND PERIMETER ANGLES. FIRE DAMPERS MUST BE INSTALLED IN THE PARTITION OR FLOOR AND NOT OUTSIDE THE PENETRATION.
2. GALVANIZED SLEEVE: GAGE NOT LESS THAN CONNECTING DUCT. FASTEN SLEEVE TO DAMPER FRAME AND TO PERIMETER ANGLES.
3. PERIMETER ANGLES: GALVANIZED STEEL, NOT LESS THAN 1–1/2"x1–1/2" , 14 GAGE, TO PROVIDE 1" MINIMUM OVERLAP OF OPENING ON ALL 4 SIDES.
4. BREAKAWAY DUCT CONNECTION: CONTRACTOR'S OPTION OF TYPES SHOWN IN SMACNA.
5. ACCESS PANELS: SIZE AND LOCATION TO PERMIT SERVICING THE FUSIBLE LINK OR LINKS.
6. PROVIDE 1/4" TO 1/2" CLEARANCE ON HEIGHT AND WIDTH. IN ORDER TO MAINTAIN U.L. RATING FOR FIRE DAMPER, DO NOT FILL THIS OPEN SPACE WITH FIRESTOP MATERIAL.
7. ALL DUCT WORK RISERS WHICH ARE RUN EXPOSED, SUCH AS THRU ATTIC FLOORS AND MECHANICAL ROOM FLOORS, SHALL BE PROVIDED WITH 3" HIGH CONCRETE CURB AROUND OPENING FOR DUCT.

SECTION THRU FIRE DAMPER INSTALLATION

CONTROL SEQUENCES

1 GENERAL

1.1 THE EQUIPMENT MANUFACTURER SHALL PROVIDE A COMPLETE SYSTEM OF AUTOMATIC CONTROLS CAPABLE OF FULLY SUPPORTING ALL COMPONENTS OF THE VRF SYSTEM, INCLUDING BUT NOT LIMITED TO, OUTDOOR UNIT, BRANCH CIRCUIT CONTROLLER, ENERGY RECOVERY VENTILATOR, OUTSIDE AIR AND EXHAUST AIR DAMPERS, ALL INDOOR FAN COIL UNITS AND ELECTRIC DUCT HEATERS.

1.2 SYSTEMS SHALL BE STARTED AND STOPPED WITH TIME SCHEDULES, PROGRAMMABLE BY END USER.

1.3 INITIAL SCHEDULES – SPACES WILL BE OCCUPIED CONTINUOUSLY, 24 HOURS PER DAY, 365 DAYS PER YEAR. COORDINATE EXACT SCHEDULES WITH COTR.

1.4 WHEN SYSTEM IS OFF FOR ANY REASON, EXHAUST AND OUTSIDE AIR DAMPERS SHALL BE CLOSED.

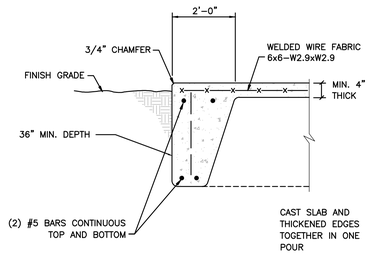
2 ELECTRIC DUCT HEATING COILS

2.1 ELECTRIC DUCT COILS LOCATED IN OUTSIDE AIR DUCT SHALL MAINTAIN THE AIR ENTERING ERV ABOVE 14 DEG. F.

2.3 ELECTRIC DUCT COILS SHALL INCLUDE AIRFLOW PROVING SWITCH, AUTOMATIC RESET TEMP LIMITING CONTROL AND LOAD CARRYING OVER TEMPERATURE PROTECTIVE DEVICE(S).

3 AUTOMATIC CONTROL DAMPERS

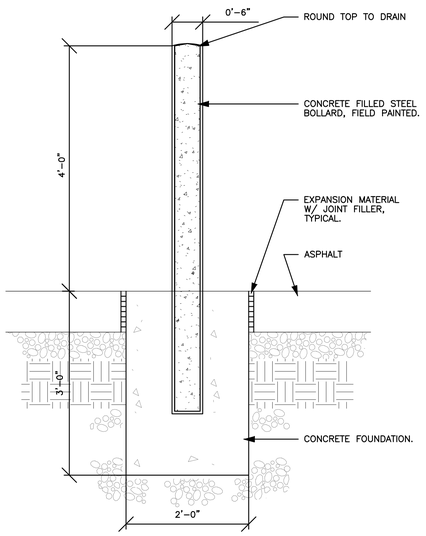
3.1 MOTORIZED TWO–POSITION OUTSIDE AIR AND EXHAUST AIR DAMPERS SHALL BE HARD WIRE INTERLOCKED TO OPEN WHEN THE ERVS RESPECTIVE FAN (SUPPLY OR EXHAUST) IS ENERGIZED.



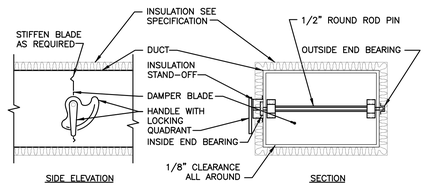
TYP. ALL FOUR SIDES

CONDENSING UNIT PAD DETAIL

SCALE: NONE



BOLLARD DETAIL



NOTES:

1. DELETE INSULATION STAND–OFF ON DUCTWORK WITHOUT EXTERIOR INSULATION.
2. DETAIL SHOWS SINGLE BLADE DAMPER. DAMPER INSTALLATION SHALL BE SIMILAR FOR MULTI–BLADE DAMPERS & ROUND DAMPERS.

VOLUME DAMPER DETAIL

Revisions	Date

Refer to ALL other project drawings for related work.

Drawing Title: HVAC Details

Approved: Chief, Engineering Service

Project Title: Rehab Bldg 259 For Fire Department

Building Number: 259 | Checked: | Drawn: KFC

Location: Chillicothe, Ohio

Date: Dec. 28, 2011

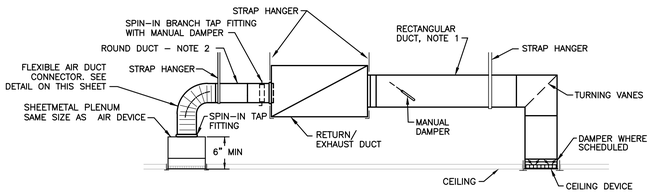
538-12-103

Drawing Number: 259-16

Dwg. 16 of 19

Planning & Design

Department of Veterans' Affairs

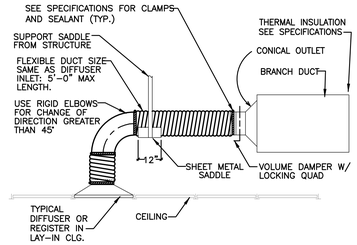


NOTES:

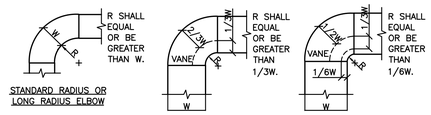
1 BRANCH DUCT TAKE-OFF WITH MANUAL DAMPER.

2 BRANCH DUCT SIZES, UNLESS NOTED ON PLANS ARE TO BE SIZED AS FOLLOWS:
100 CFM AND LESS – 6" DIA.
101 CFM TO 250 CFM – 8" DIA.
251 CFM TO 400 CFM – 10" DIA.
401 CFM TO 700 CFM – 12" DIA.

RETURN OR EXHAUST GRILLE/REGISTER CONNECTION



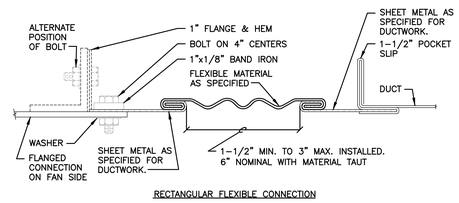
FLEXIBLE AIR DUCT CONNECTOR



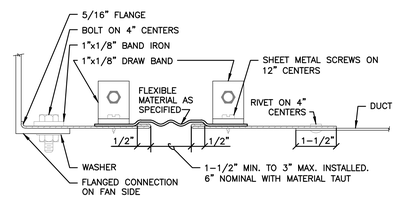
NOTES:

1. THE INTERIOR SURFACE OF ALL RADIUS ELBOWS SHALL BE MADE ROUND.
2. ALL STANDARD RADIUS ELBOWS CAN BE SUBSTITUTED WITH SHORT RADIUS ELBOWS. ALL SHORT RADIUS ELBOWS SHALL HAVE VANES. VANES SHALL BE CONSTRUCTED, SUPPORTED AND FASTENED AS RECOMMENDED BY SMACNA.

DUCTWORK RADIUS ELBOWS

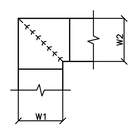


RECTANGULAR FLEXIBLE CONNECTION



ROUND FLEXIBLE CONNECTION

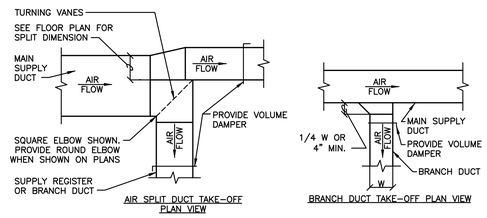
FLEXIBLE DUCT CONNECTIONS



NOTES:

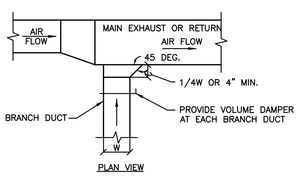
1. ALL VANE ELBOWS SHALL BE CONSTRUCTED AND INSTALLED AS DETAILED BY SMACNA.
2. WHEN W1 DOES NOT EQUAL W2, VANE SHALL BE SINGLE THICKNESS VANE TYPE REGARDLESS OF W DIMENSION.
3. ALL SINGLE THICKNESS VANES SHALL HAVE A 2" RADIUS, 1 1/2" MAXIMUM SPACE BETWEEN VANES AND A 3/4" TRAILING EDGE.
4. WHEN W EQUALS W2 AND W1 IS GREATER THAN 20", VANES SHALL BE DOUBLE VANE TYPE.

DUCTWORK SQUARE VANE ELBOWS



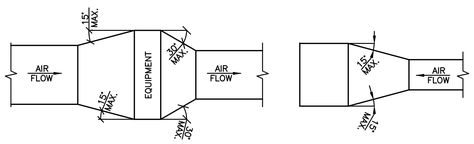
SUPPLY DUCTWORK TAKE-OFFS

THE BRANCH DUCT TAKE-OFF MAY BE USED FOR UP TO 15% OF THE MAIN DUCT CFM ANYTIME, AND UP TO 40% WHEN THE MAIN DUCT VELOCITY IS 1000 FPM OR LESS. THE AIR SPLIT DUCT TAKE-OFF SHALL BE USED IN ALL OTHER CASES



PLAN VIEW

EXHAUST OR RETURN BRANCH DUCTWORK

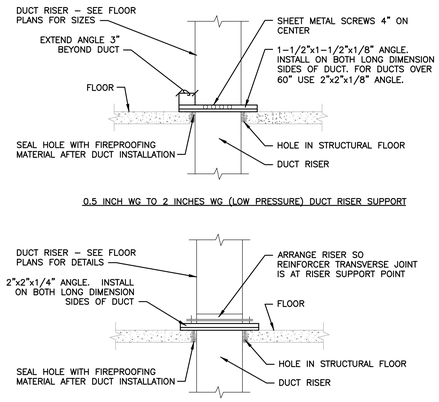


TYPICAL DUCTWORK TRANSITION WITH EQUIPMENT MOUNTED IN DUCT PLAN OR SIDE VIEW

TYPICAL DUCTWORK TRANSITION PLAN OR SIDE VIEW

NOTE:
UNLESS OTHERWISE INDICATED ON PLANS, MAXIMUM ANGLES SHOWN SHALL APPLY.

DUCTWORK TRANSITIONS

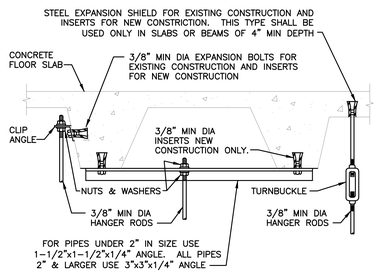


0.5 INCH WG TO 2 INCHES WG (LOW PRESSURE) DUCT RISER SUPPORT

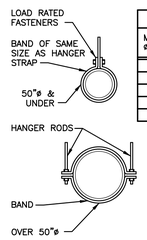
2 INCHES WG TO 4 INCHES WG (HIGH AND MEDIUM PRESSURE) DUCT RISER SUPPORT

NOTE:
ALL DUCT WORK RISERS WHICH ARE RUN EXPOSED, SUCH AS THRU ATTIC FLOORS AND FAN ROOM FLOORS SHALL BE PROVIDED WITH A 3" HIGH CONCRETE CURB AROUND OPENING FOR DUCT.

DUCT RISER SUPPORTS



SECURING HANGER RODS IN CONCRETE



HANGER STRAPS OR RODS			
MAX. DUCT ø IN.	QUANTITY/SIZE IN.	MAX. LOAD LBS.	MAX. SPACING IN.
26	ONE 1 x 22 GA STRAP	260	144
36	ONE 1 x 18 GA STRAP	420	144
50	ONE 1 x 16 GA STRAP	700	144
60	TWO 3/8ø. RODS	1320	144
84	TWO 1/2ø RODS	2500	144

NOTE:
TABULATED DATA FROM SMACNA ALLOWS FOR DUCT REINFORCING AND INSULATION, BUT NO EXTERNAL LOAD.

ROUND DUCT HANGERS

Revisions	Date

Refer to ALL other project drawings for related work.

Drawing Title: HVAC Details

Approved: Chief, Engineering Service

Project Title: Rehab Bldg 259 For Fire Department

Building Number: 259 | Checked: | Drawn: KFC

Location: Chillicothe, Ohio

Date: Dec. 28, 2011

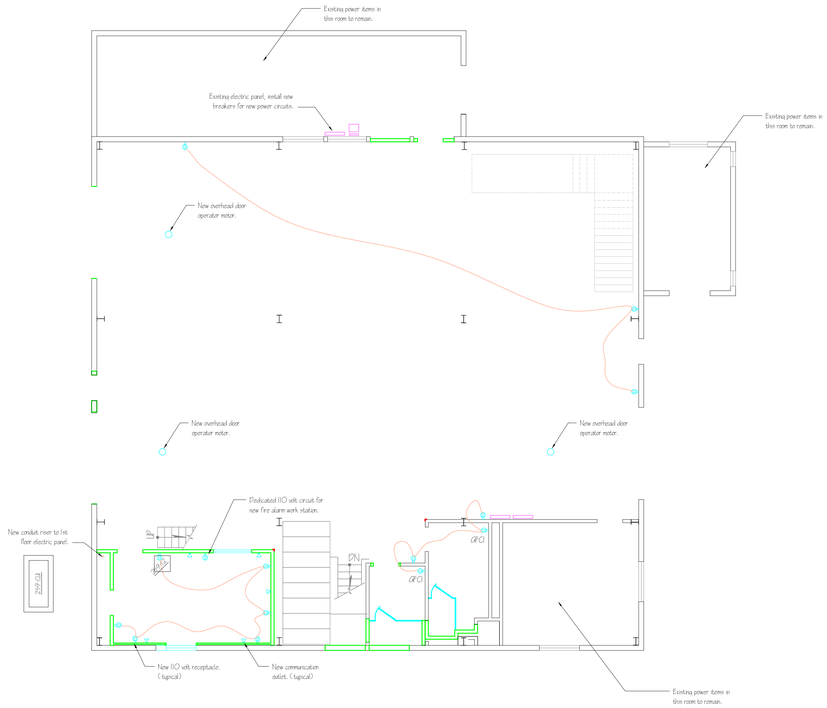
538-12-103

Drawing Number: 259-17

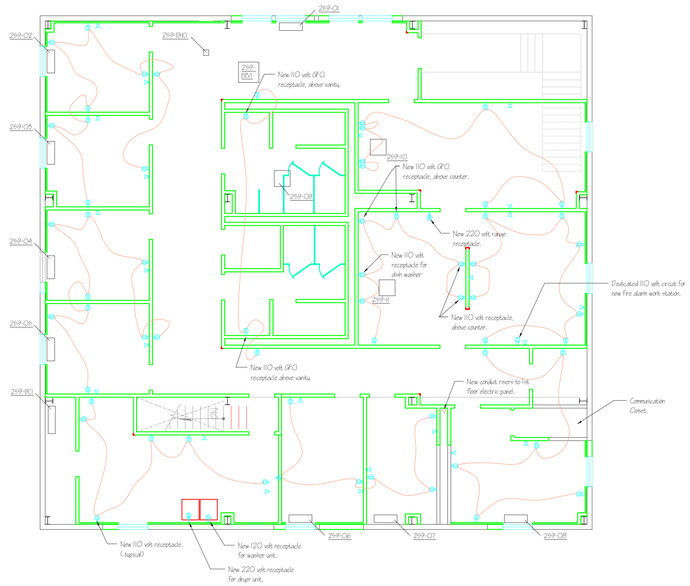
Dwg. 17 of 19

Planning & Design

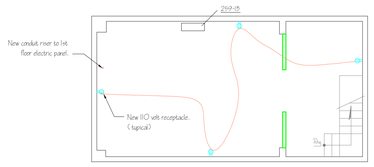
Department of Veterans' Affairs



First Floor Plan



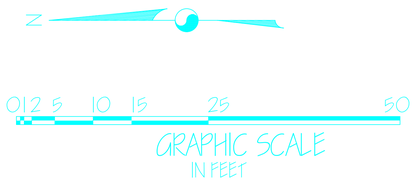
Second Floor Plan



Basement Floor Plan

NOTES:

1. Extend communication cables from new communication jacks to existing communication room on 2nd floor. Make necessary connections to terminal blocks.
2. Provide power circuit for new HVAC equipment items. Refer to HVAC drawings for additional information.



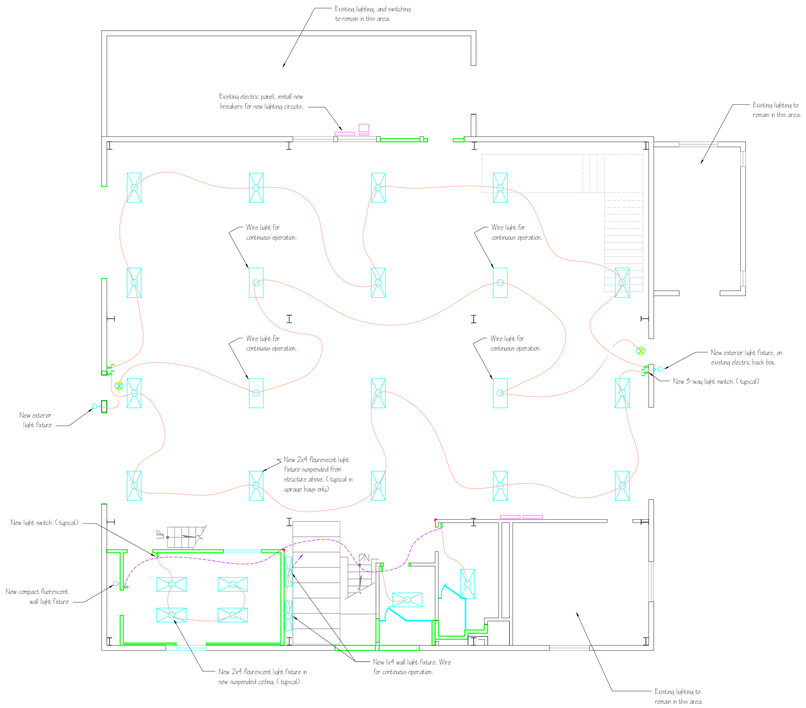
Drawing Scale: 1/8"=1'-0"
30x42 drawing sheet

Revisions	Date

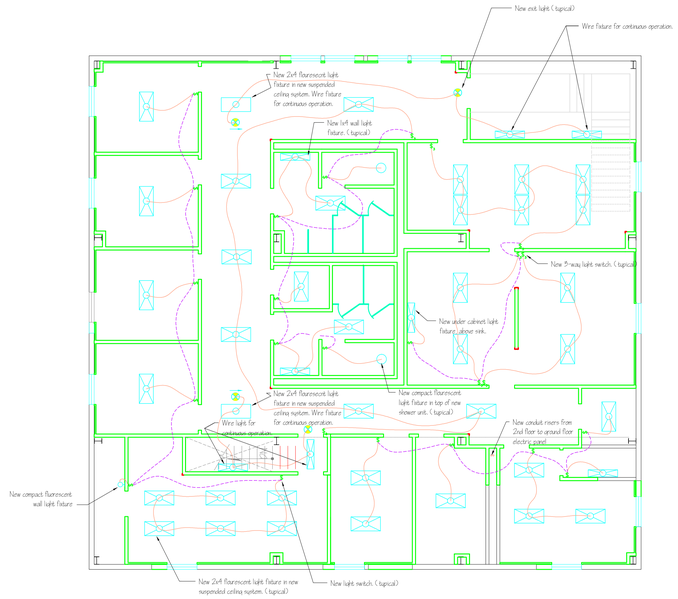
Refer to ALL other project drawings for related work.

Drawing Title: New Signal & Power Plans	Project Title: Rehab Bldg 259 For Fire Department		Date: Dec. 19, 2011
			Project No. 558-12-103
Approved: Assistant Chief, Engineering	Building Number: 259	Checked	Drawn: B. Ford
Approved: Chief, Engineering	Location: Chillicothe, Ohio		DRAWING NO. 259-18 Dwg. 18 Of 19

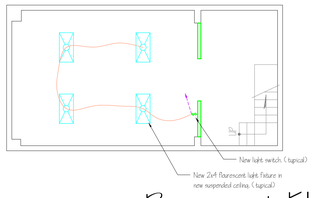
Planning & Design
Department of Veterans Affairs



First Floor Plan



Second Floor Plan



Basement Floor Plan

N

0 1 2 5 10 15 25 50

GRAPHIC SCALE
IN FEET

Drawing Scale: 1/8"=1'-0"
30x42 drawing sheet

Revisions	Date

Refer to ALL other project drawings for related work.

Drawing Title: New Lighting Plans	Project Title: Rehab Bldg 259 For Fire Department		Date: Dec. 19, 2011
			Project No. 558-12-103
Approved: Assistant Chief, Engineering	Building Number: 259	Checked	Drawn: B. Ford
Approved: Chief, Engineering	Location: Chillicothe, Ohio		DRAWING NO. 259-19 Dwg. 19 Of 19

Planning & Design
Department of Veterans Affairs

REHAB BLDG 259 FOR FIRE DEPARTMENT
PROJECT 538-12-103
VA MEDICAL CENTER
CHILLICOTHE, OHIO

General Notes

1. These notes apply equally to the full set of drawings.
2. COTR is the Contracting Officer's Technical Representative.
3. Contractor is intended to include contractors and subcontractors.
4. This building will not be occuppied by VA personnel during performance of this project. The contractors are responsible for protecting all finishes, equipment, etc that remains during construction.
5. Prior to bidding all prospective contractors are encouraged to visit site, examine and accept all existing conditions. Site visit shall be as outlined in project specifications. Unscheduled visits shall not be allowed.
6. Any asbestos work performed as part of this project shall be completed prior to starting any other on site project work.
7. The contractor shall refer to ALL drawings for related work. The various drawings comprising the set are interdependent and must be used jointly at all times. Notes and symbols set down on the drawings are for guidance of all trades involved in the project and must be followed to execute the work as intended. If discrepancies ocur, contact the project COTR for clarification before proceeding.
8. In accordance with generally accepted construction practices, the general contractor shall be solely and completely responsible for the conditions on the job site, including safety of all persons and property during performance of the work.
9. All project work must be coordinated with the COTR to maintain operations of the existing hospital facility. It is the responsibility of the general contractor to notify the project COTR of any work that might require interruption of utility services. All such interruptions shall be scheduled as outlined in project specifications.
10. All dimensions are approximate and may vary in the field. New partitions shall be located to the finish face as indicated by the dimension. Where no dimension is indicated, partitions, doors, etc shall be located form existing columns, windows, partitions, doors, etc as indicate don the plans. All new partitions shall be located in the field and approved by the project COTR before any construction is started. Scaling of drawings is not recommended.
11. titles, captions, headings, etc are intended for general reference and are not intended to limit the work required in any way.
12. Each contractor shall review all project drawings and specifications and coordinate their work with the work of others. He shall keep himself informed of the progress and detail development of the work of others and shall be responsible for coordinating and expediting his work with others so that the progress of the total work is kept on schedule.
13. All work shall be performed in complete compliance with all governing codes and standards.
14. Existing conditions shown have been based upon available information and may be at variance with actual work in place. The contractor shall take all necessary field measurements and field verify all conditions affecting the execution of the work. any discrepancies between existing conditions and the work shown on project drawings shall be brought to the attention of the COTR in writing for resolution before proceeding with the work.
15. Each contractor and/ or trade fitting or placing his work into or on the work of others does so with the understanding that the installation of his work constitutes his acceptance of the suitability of the work in place. If the work of others is not acceptable, he shall notify the project superintendent and project COTR and such work shall be corrected. No claims for additional compensation for correcting work installed in unsuitable conditions will be considered.
16. Do not paint any caulk or sealant which are subject to movement. control joints shall be caulked after paint application. Provide caulking and sealant in colors which match adjacent finished surface.
17. Verify all conditions and dimensions in the field prior to fabricating any items of material or equipment.
18. All existing construction to remain that is damaged or disturbed during construction shall be patched or restored to match existing adjacent construction unless otherwise indicated.
19. It is the intent of the documents to indicate complete and operational systems (i.e. structural, hvac, plumbing, electrical, etc.). the contractor shall provide the systems as operational systems which comply with applicable codes and regulations.
20. Provide fire-retardant treated 2x blocking in the stud cavity at all locations required to provide solid anchorage of wall supported items shown on the drawings, including but not limited to: grab bars, cabinets, toilet accessories, kitchen equipment, etc.
21. All suspended items such as ceilings, ducts, piping, conduit, equipment, etc. shall be suspnended (attached) directly to structure.
22. All penetrations such as conduit, ducts, pipes, etc. in all partitions and floor slabs shall be sealed to prevent the passage of any smoke, flame, gases, etc.
23. Where new construction requires drilling/ cutting through existing floor slabs or walls, the contractor shall coordinate his work to avoid drilling/ cutting into a structural element, including beams, columns, etc. Drilling numerous holes around a perimeter and knocking out necessary area is not acceptable. Such work shall be executed by core drilling and or sawing the required size of opening.
24. Where new construction (ie doors, frames, windows, casework,equipment, etc) is indicated to be installed in existing construction, the contractor shall verify all dimensions for proper fit and access prior to shop drawing submittal, ordering and delivery to site.

Drawing Index

Drawing No.	Drawing Title
259-1	Cover Sheet
259-2	Architectural Demolition Plans
259-3	Plumbing Demolition Plans
259-4	Signal & Power Demolition Plans
259-5	Lighting Demolition Plans
259-6	Building Elevations
259-7 (S1)	2nd Floor Framing Plan & Details
259-8	New Architectural Floor Plans
259-9	Furniture/ Equipment Layout Plans
259-10	New Reflected Ceiling Plans
259-11	Misc. Details & Information
259-12	New Plumbing Plans
259-13	New Sprinkler/ Fire Alarm Plans
259-14	HVAC Dwg Index, Legend & General Notes
259-15	New HVAC Plans
259-16	HVAC Details
259-17	HVAC Details
259-18	New Signal & Power Plans
259-19	New Lighting Plans

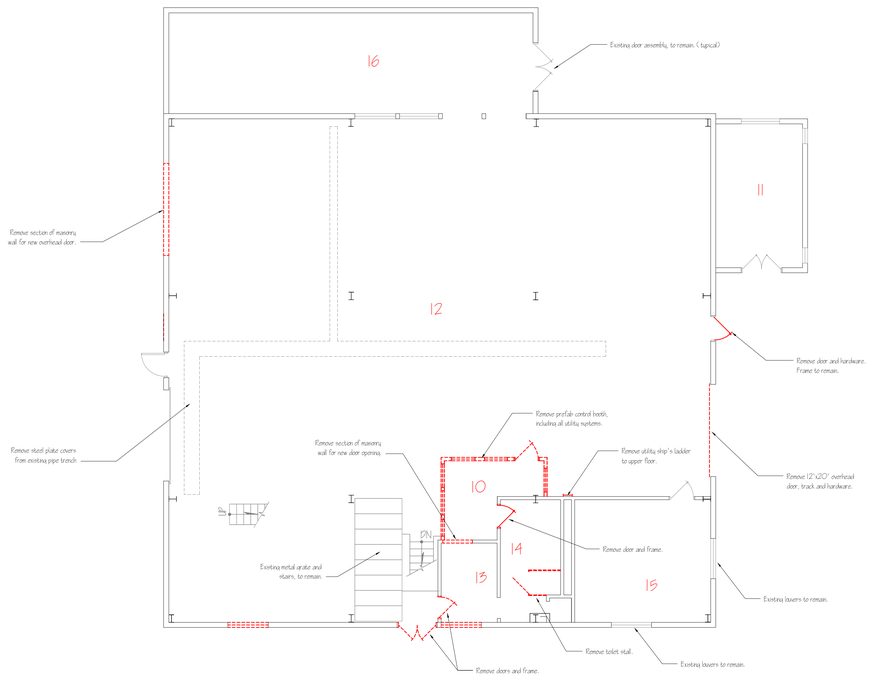
Revisions	Date

Refer to ALL other project drawings for related work.

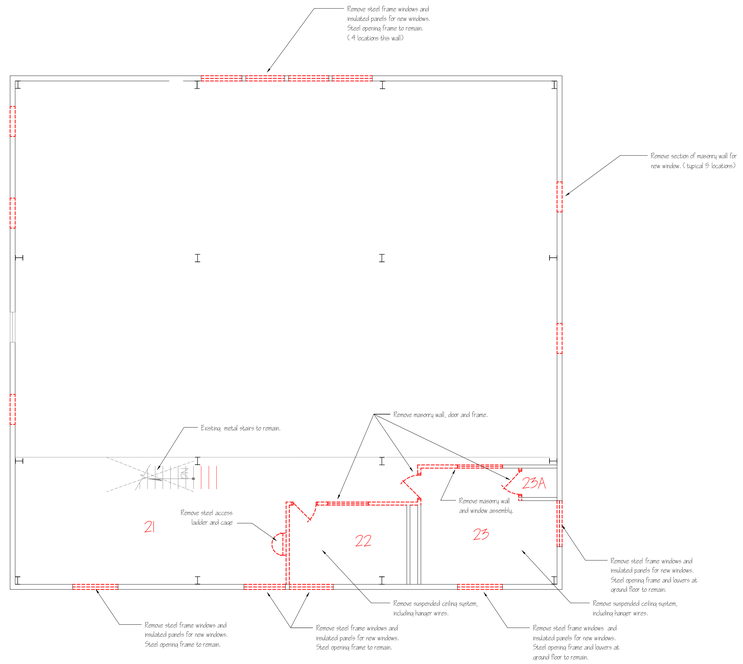
Drawing Title: Cover Sheet	Project Title: Rehab Bldg 259 For Fire Department		Date: Dec. 19, 2011
			Project No. 538-12-103
Approved: Assistant Chief, Engineering	Building Number: 259	Checked	Drawn: B. Ford
Approved: Chief, Engineering	Location: Chillicothe, Ohio		DRAWING NO. 259-1 Dwg. 1 Of 19

Planning & Design

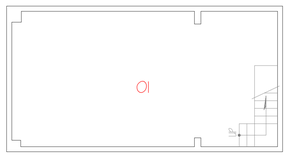
Department of Veterans Affairs



First Floor Plan



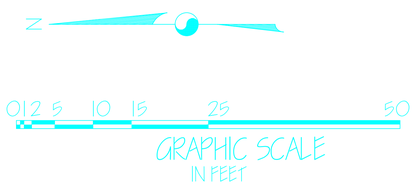
Second Floor Plan



Basement Floor Plan

NOTES:

1) Refer to New Architectural plans for new window/ door locations information.
2) Ground floor to upper floor 12' (+ / -).
Upper floor to under side of roof 11'-10" (+ / -).



Drawing Scale: 1/8"=1'-0"
30x42 drawing sheet

Revisions	Date

Refer to ALL other project drawings for related work.

Drawing Title: Architectural Demolition Plans

Project Title: Rehab Bldg 259 For Fire Department

Date: Dec. 19, 2011

Project No. 538-12-103

Approved: Assistant Chief, Engineering

Building Number: 259

Checked:

Drawn: B. Ford

Approved: Chief, Engineering

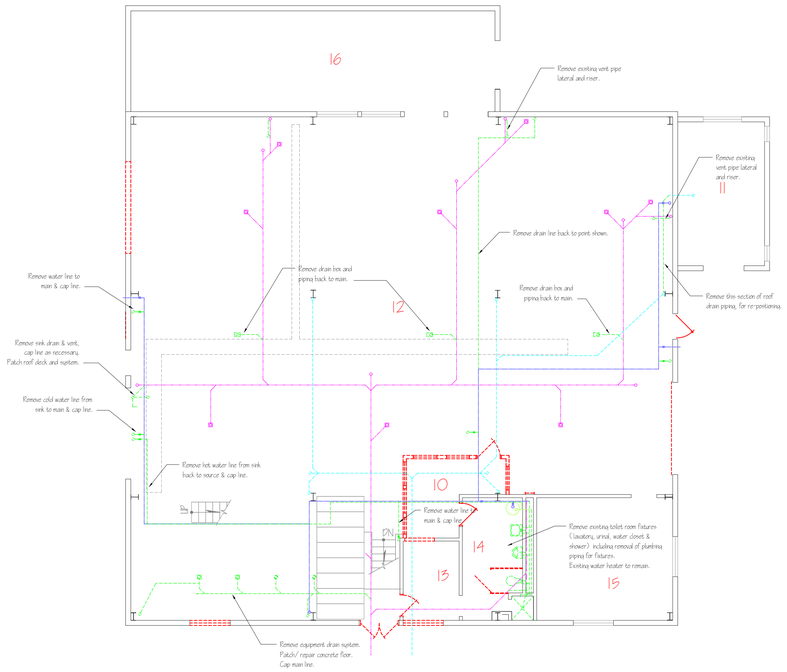
Location: Chillicothe, Ohio

DRAWING NO. 259-2

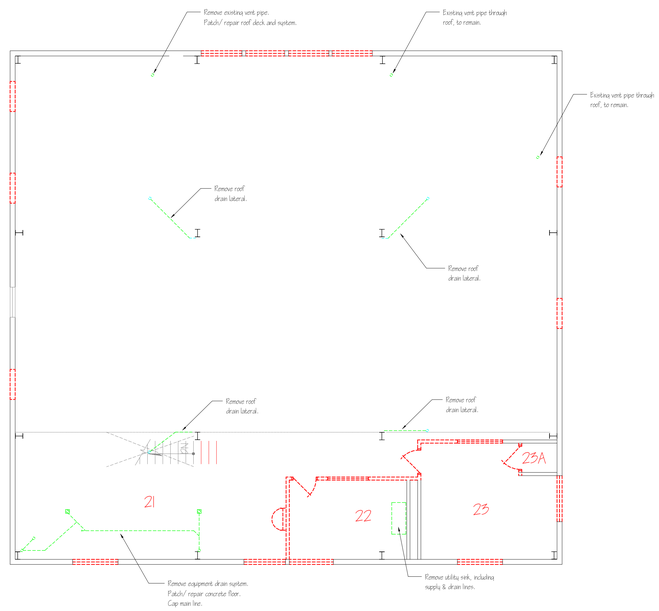
Dwg. 2 Of 19

Planning & Design

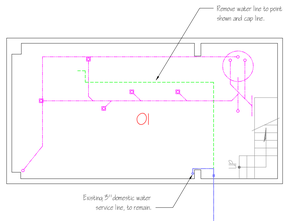
Department of Veterans Affairs



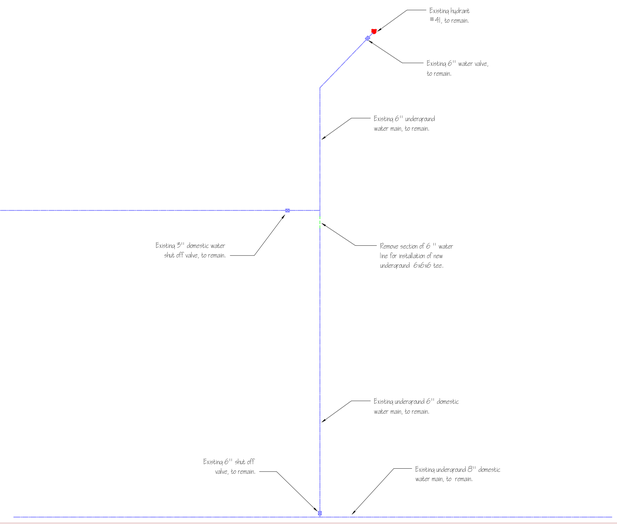
First Floor Plan



Second Floor Plan



Basement Floor Plan



N

0 1 2 5 10 15 25 50

GRAPHIC SCALE
IN FEET

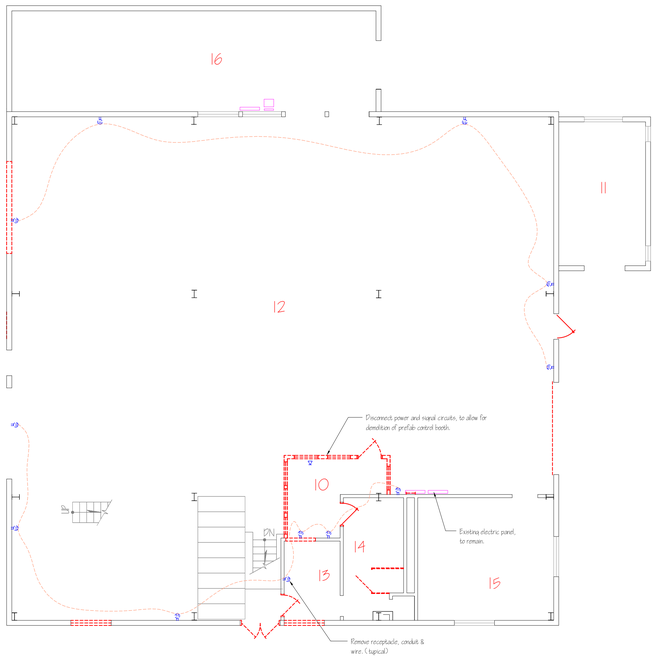
Drawing Scale: 1/8"=1'-0"
30x42 drawing sheet

Revisions	Date

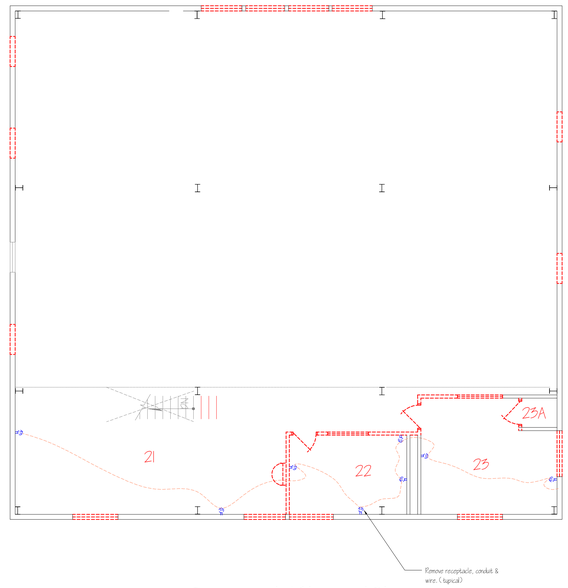
Refer to ALL other project drawings for related work.

Drawing Title: Plumbing Demolition Plans	Project Title: Rehab Bldg 259 For Fire Department		Date: Dec. 19, 2011
			Project No. 558-12-103
Approved: Assistant Chief, Engineering	Building Number: 259	Checked	Drawn: B. Ford
Approved: Chief, Engineering	Location: Chillicothe, Ohio		DRAWING NO. 259-3 Dwg. 3 Of 19

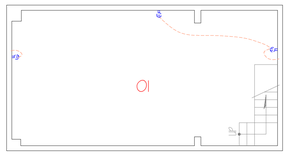
Planning & Design
Department of Veterans Affairs



First Floor Plan

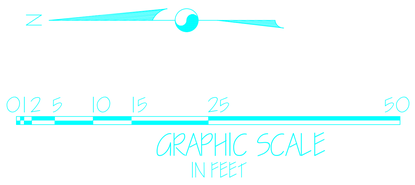


Second Floor Plan



Basement Floor Plan

Notes:
1. Remove power and signal conduits back to source, including hangers/ supports.



Drawing Scale: 1/8"=1'-0"
30x42 drawing sheet

Revisions	Date

Refer to ALL other project drawings for related work.

Drawing Title: Signal & Power Demolition Plans

Project Title: Rehab Bldg 259 For Fire Department

Date: Dec. 19, 2011

Project No. 558-12-103

Approved: Assistant Chief, Engineering

Building Number: 259

Checked:

Drawn: B. Ford

DRAWING NO. 259-4

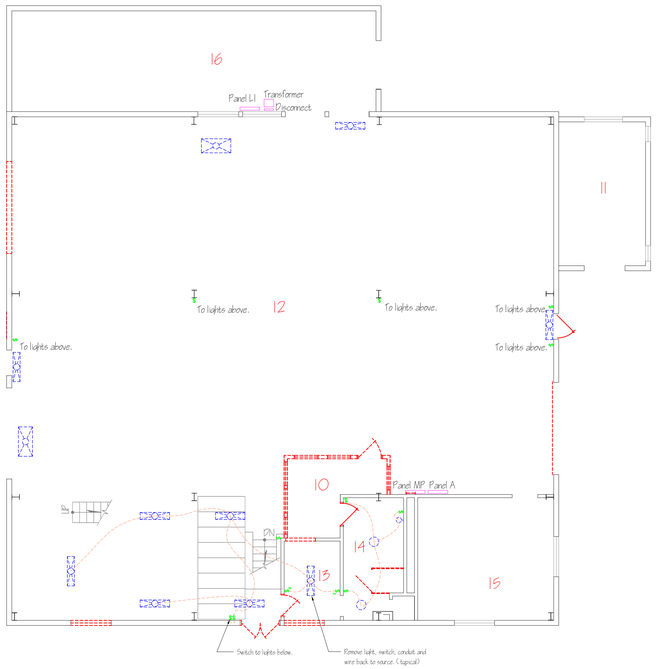
Dwg. 4 Of 19

Approved: Chief, Engineering

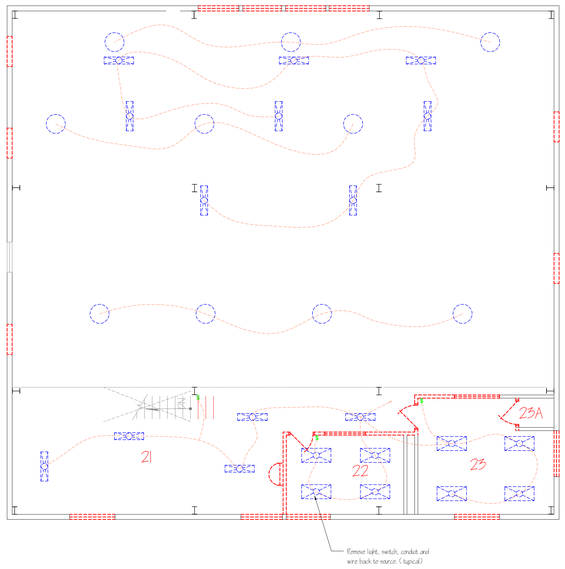
Location: Chillicothe, Ohio

Planning & Design

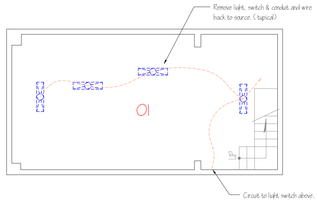
Department of Veterans Affairs



First Floor Plan



Second Floor Plan



Basement Floor Plan

Existing Panel Schedules

Panel L1 $\frac{120}{208}$ volt, 60 amp, 3 ph, 4 wire

1 water softner filter	2 service disc.
3 receptacles	4 service disc.
5 unit heater fan	6 service disc.
7 receptacle/ pump	8 spare
9 rec boiler landings	10 spare
11 light at chem test	12 spare
13 recirculating pump	14 spare
15 space	16 space
17 space	18 space
19 space	20 space
21 space	22 space
23 space	24 space
25 space	26 space
27 space	28 space
29 space	30 space

Panel P $\frac{277}{480}$ volt, 100 amp, 3 ph, 4 wire

1 condensate pump #1	2 condensate pump #2
3 sump pump @ bsmt	4 air compressor
5 RO pump	6 RO
7 fan generator room	8 feed pump

Transformer/ Disconnect
Fed from H 7-9-11
480 volt to $\frac{120}{208}$ volt 3 phase 4 wire

Panel A $\frac{120}{208}$ volt, 100 amp, 3 ph, 4 wire

1 feed pump VPD controls	2 BLR #3 controls
3 master boiler	4 BLR #1 controls
5 recover & basement	6 chemical pump
7 rec.	8 15-1
9 heat tape	10 15-1
11 heat tape	12 rec in supervisor office
13 rec gen rm e&s wall	14 bath exhaust fan
15 rec mezanine office	16 water meter
17 chemical feed pumps	18 generator battery charger
19 gen jacket water heater	20 unit heaters over hd & gen rm
21 lights in gas room	22 generator day tank
23	24 hot water tank
25 emergency gas valve	26 hot water tank
27 heat tape	28 unit heater
29 heat tape	30 light over door outside
31 max	32 spare
33 max	34 office ac
35 max	36 office ac
37 max	38 gen rm antenna t7550
39 max	40 steam xmitters cont rm
41 spare	42 gest water xmitters cont rm

Notes:
1. Remove lighting conduit back to source, including hangers/ supports.

N

0 1 2 5 10 15 25 50
GRAPHIC SCALE
IN FEET

Drawing Scale: $\frac{1}{8}$"=1'-0"
30x42 drawing sheet

Revisions	Date

Refer to ALL other project drawings for related work.

Drawing Title: Lighting Demolition Plans

Project Title: Rehab Bldg 259 For Fire Department

Date: Dec. 19, 2011

Project No. 558-12-103

Approved: Assistant Chief, Engineering

Building Number: 259

Checked

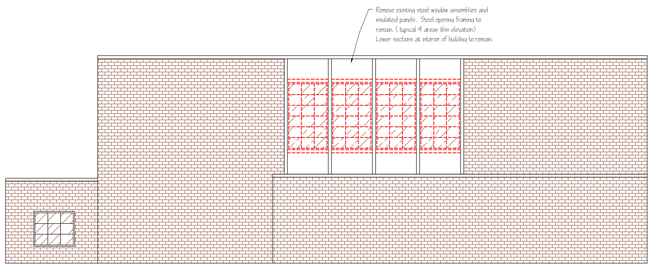
Drawn: B. Ford

DRAWING NO. 259-5
Dwg. 5 Of 19

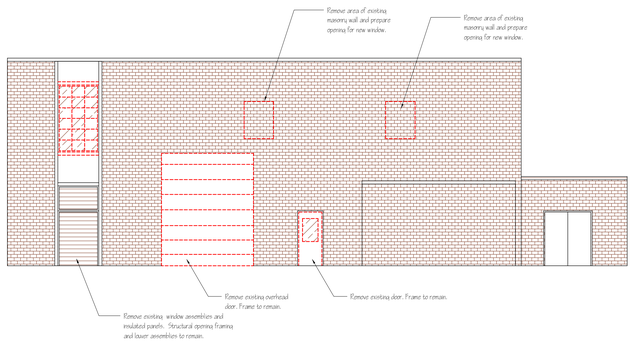
Approved: Chief, Engineering

Location: Chillicothe, Ohio

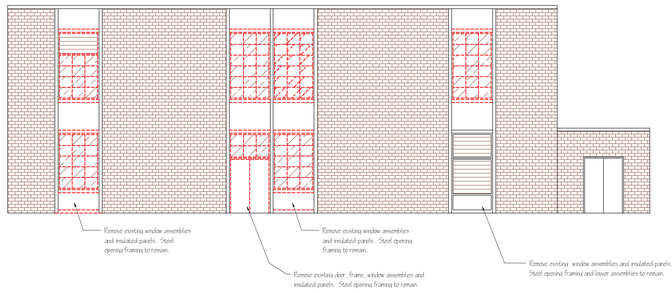
Planning & Design
Department of Veterans Affairs



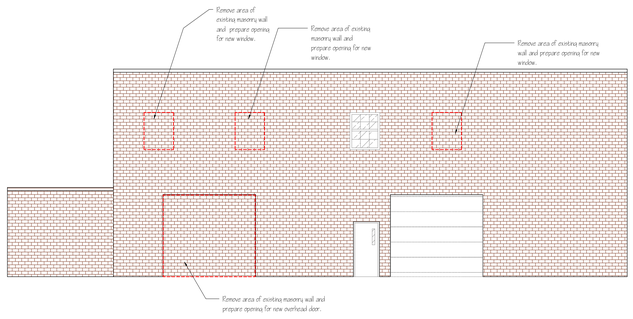
East



South



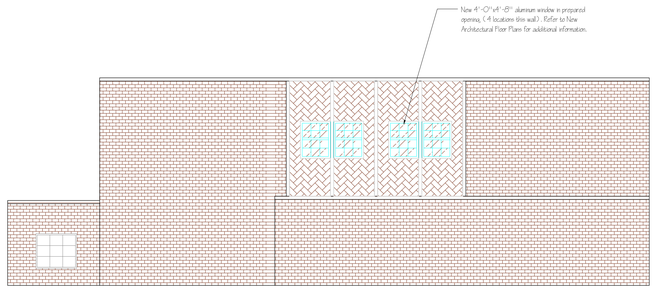
West



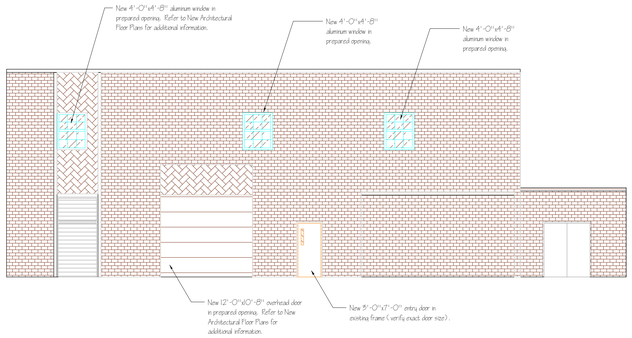
North

Existing Elevations

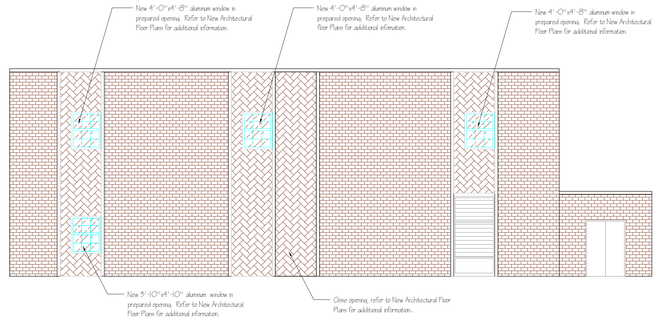
Drawing Scale: $\frac{1}{8}$" = 1'-0"
30x42 drawing sheet



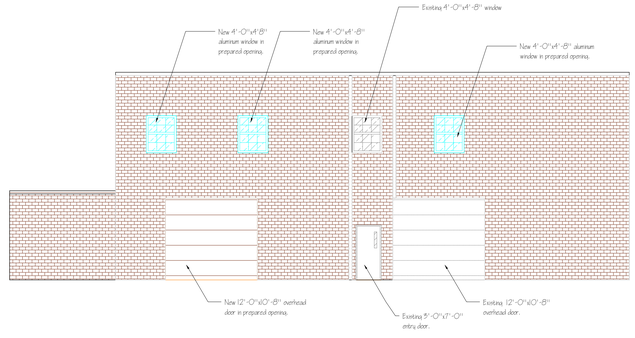
East



South



West



North

NOTES:
1) Refer to New Architectural plans for new window/ door's location information.

New Elevations

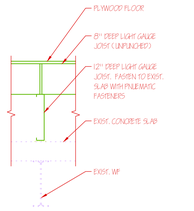
Drawing Scale: $\frac{1}{8}$" = 1'-0"
30x42 drawing sheet

Revisions	Date

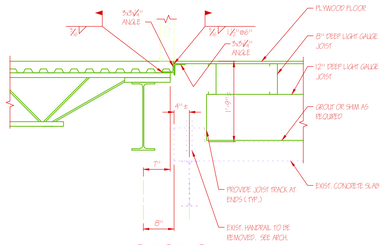
Refer to ALL other project drawings for related work.

Drawing Title: Building Elevations	Project Title: Rehab Bldg 259 For Fire Department		Date: Dec. 19, 2011
Approved: Assistant Chief, Engineering	Building Number: 259	Checked	Drawn: B. Ford
Approved: Chief, Engineering	Location: Chillicothe, Ohio		Project No. 538-12-103
			DRAWING NO. 259-6 Dwg. 6 Of 19

Planning & Design
Department of Veterans Affairs



1 259-7 **SECTION**
SCALE: 3/4" = 1'-0"



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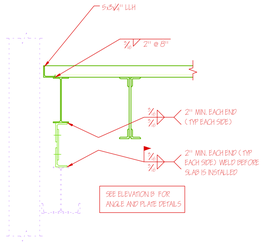

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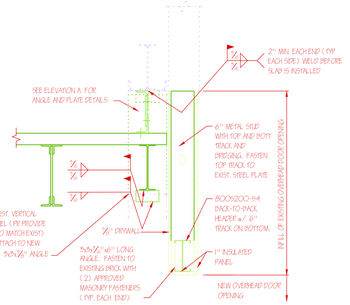

4 259-7 **SECTION**
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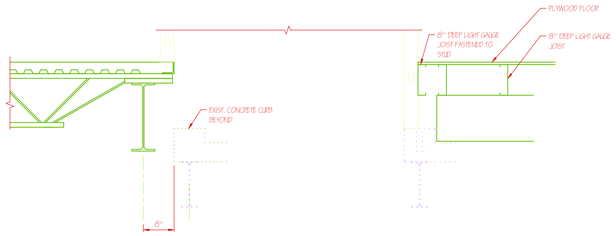

5 259-7 **SECTION**
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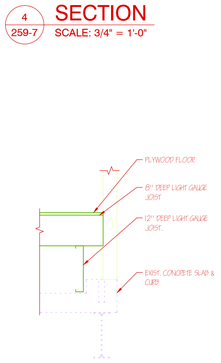

6 259-7 **SECTION**
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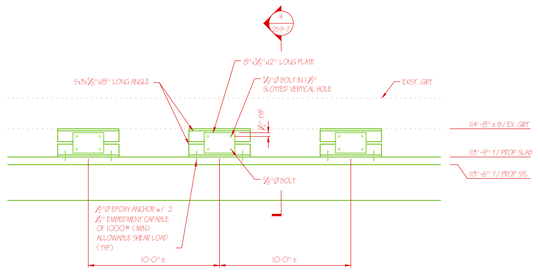
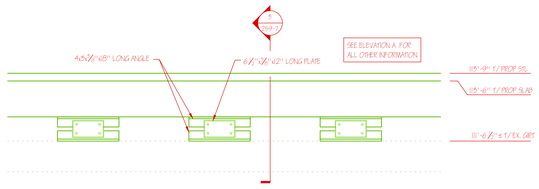
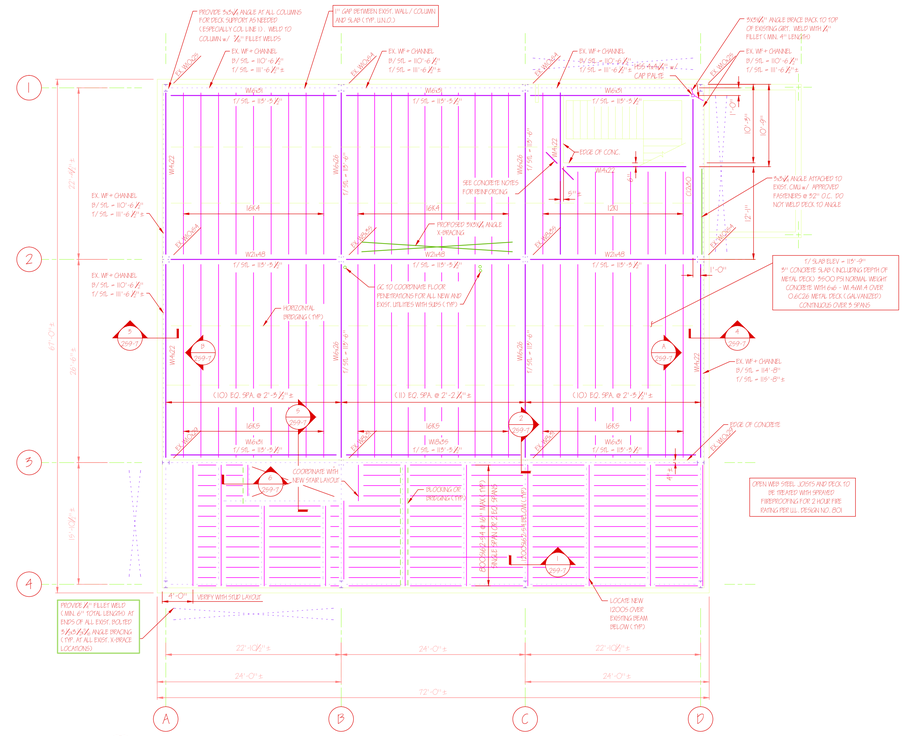


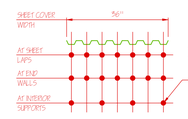
A 259-7 **ELEVATION**
SCALE: 1/2" = 1'-0"



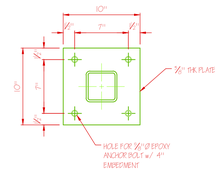
B 259-7 **ELEVATION**
SCALE: 1/2" = 1'-0"



2ND FLOOR FRAMING PLAN
SCALE: 1/8" = 1'-0"



DECK FASTENER LAYOUT
N.T.S.



BASE PLATE DETAIL
SCALE: 1 1/2" = 1'-0"

CONCRETE:
ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE LATEST SPECIFICATION OF THE AMERICAN CONCRETE INSTITUTE AND THE CONCRETE REINFORCING INSTITUTE

ALL BUILDING FLOOR SLABS SHALL BE STEEL TROWEL FINISHED

REINFORCING STEEL: ASTM A615 OR A616, GRADE 60. MINIMUM LAP LENGTH = 48 DIAMETERS

PROVIDE (1) #4 REBAR, 9'-0" LONG DIAGONALLY AT ALL CORNERS IN INTERIOR SLAB

STEEL

ALL STRUCTURAL STEEL FABRICATION AND ERECTION SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF THE AISC SPECIFICATIONS FOR THE DESIGN, FABRICATION, AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS AND THE AISC CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES.

STRUCTURAL STEEL: WF ASTM A992, PLATES, CHANNELS AND ANGLES - ASTM A36, TUBE ASTM A500 Fy=46 KSI

ALL BOLTS, NUTS AND WASHERS SHALL BE ASTM A325N UNLESS NOTED OTHERWISE

SPLICING OF STRUCTURAL STEEL IN PROHIBITED EXCEPT AS DETAILED

WELDING ELECTRODES AWS ASTM E-70XX

ALL WELDING SHALL BE DONE BY A QUALIFIED WELDER IN ACCORDANCE WITH THE LATEST EDITION OF THE AMERICAN WELDING SOCIETY STRUCTURAL WELDING CODE. ALL CONNECTIONS TO BE DESIGNED AND DETAILED BY A QUALIFIED PROFESSIONAL PAID BY THE CONTRACTOR.

CONNECTIONS: DESIGN AND DETAIL ALL CONNECTIONS FOR EACH MEMBER SIZE, STEEL GRADE AND CONNECTION TYPE TO RESIST THE LOADS AND REACTIONS INDICATED ON THE DRAWINGS OR SPECIFIED HEREIN. USE RATIONAL ENGINEERING DESIGN AND STANDARD PRACTICE INCLUDING, ACCOUNTING FOR ALL LOADS AND ECCENTRICITIES IN BOTH THE CONNECTION AND THE MEMBERS AND EXISTING FIELD CONDITIONS. THE DESIGN OF ALL CONNECTIONS IS SUBJECT TO THE REVIEW AND ACCEPTANCE OF THE CORE. SUBMIT STRUCTURAL CALCULATIONS PREPARED AND SEALED BY A QUALIFIED ENGINEER REGISTERED IN THE STATE WHERE THE PROJECT IS LOCATED. SUBMIT CALCULATIONS FOR REVIEW BEFORE PREPARATION OF DETAIL DRAWINGS.

STEEL JOISTS

OPEN WEB STEEL JOISTS SHALL BE DESIGNED, FABRICATED AND ERECTED IN ACCORDANCE WITH THE LATEST STEEL JOIST INSTITUTES SPECIFICATION AND RECOMMENDED CODE OF STANDARD PRACTICE

NO CONSTRUCTION LOADS SHALL BE PLACED ON JOISTS UNTIL BRIDGING IS INSTALLED AND BEARING CONNECTIONS HAVE BEEN BOLTED OR WELDED

STEEL DECK

THE DESIGN, FABRICATION AND ERECTION OF STEEL DECK SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF THE SDI SPECIFICATIONS AND COMMENTARY FOR STEEL ROOF DECK AND THE SDI DIAPHRAGM DESIGN MANUAL

MINIMUM LAP SHALL BE 2

FLOOR DECK BUNDLES SHALL BE PLACED ON JOISTS WITH EXTREME CAUTION, FOLLOWING THE JOIST MANUFACTURER'S RECOMMENDATIONS FOR PROPER PLACEMENT

CONTRACTOR SHALL BRACE ENTIRE STRUCTURE AS REQUIRED TO MAINTAIN STABILITY UNTIL COMPLETE AND FUNCTIONING AS THE DESIGNED UNIT

GENERAL

ALL DIMENSIONS PERTAINING TO EXISTING CONSTRUCTION TO BE FIELD VERIFIED BEFORE STARTING ANY WORK OR FABRICATION

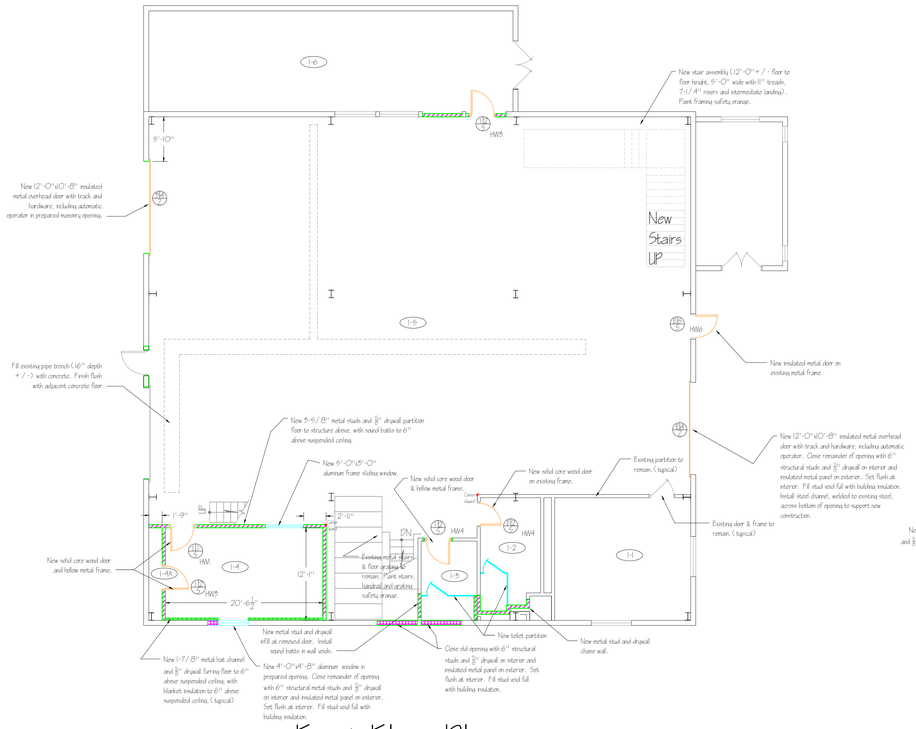
FLOOR LIVE LOAD: 100 PSF
EARTHQUAKE DESIGN DATA
SEISMIC USE GROUP: IV
SPECTRAL RESPONSE COEFFICIENTS
SDS = 0.126
SD1 = 0.079
SITE CLASS: D
BASIC SEISMIC FORCE RESISTING SYSTEM:
CONCENTRICALLY BRACED STEEL FRAMES
DESIGN BASE SHEAR = 9.7K (NEW MEZZANINE)
ANALYSIS PROCEDURE: EQUIVALENT LATERAL

Revisions	Date

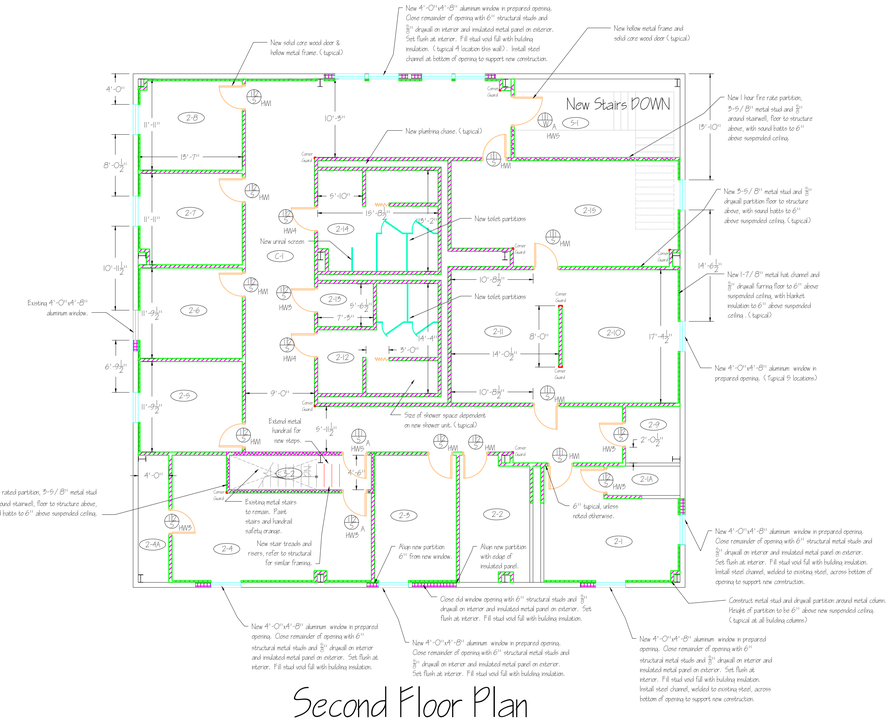
Refer to ALL other project drawings for related work.

Drawing Title: 2nd Floor Framing Plan & Details	Project Title: Rehab Bldg 259 For Fire Department		Date: March 2012
Approved: Assistant Chief, Engineering	Building Number: 259	Checked	Project No. 558-12-103
		Drawn: B. Bowen	DRAWING NO. 259-7 Dwg. 7 Of 19
Approved: Chief, Engineering	Location: Chillicothe, Ohio		

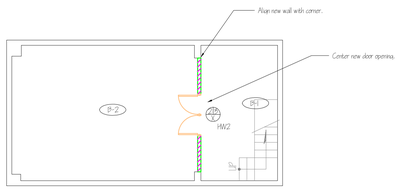
Planning & Design
Department of Veterans Affairs



First Floor Plan



Second Floor Plan



Basement Floor Plan

N

0 1 2 5 10 15 25 50

GRAPHIC SCALE
IN FEET

Drawing Scale: 1/8"=1'-0"
30x42 drawing sheet

NOTES:
1) Install new windows with bottom at 3'-0" above finish floor.

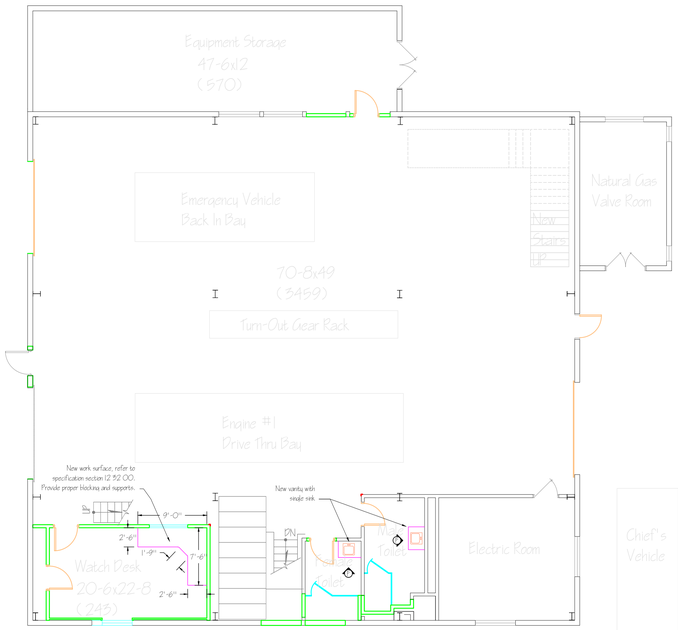
Revisions	Date

Refer to ALL other project drawings for related work.

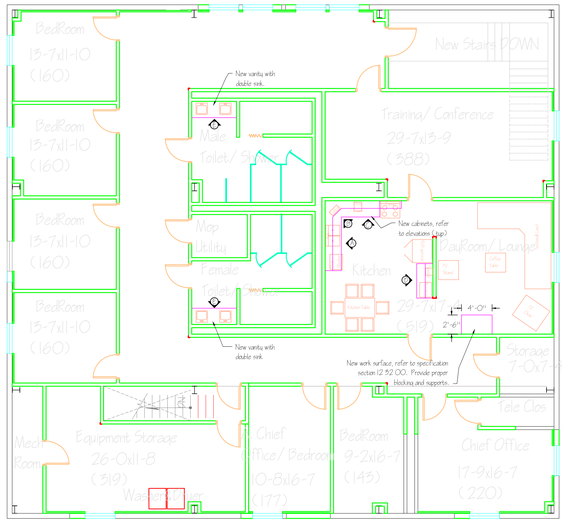
Drawing Title: New Architectural Floor Plans	Project Title: Rehab Bldg 259 For Fire Department			Date: Dec. 19, 2011
				Project No. 538-12-103
Approved: Assistant Chief, Engineering	Building Number: 259	Checked	Drawn: B. Ford	DRAWING NO. 259-8
Approved: Chief, Engineering	Location: Chillicothe, Ohio			Dwg. 8 Of 19

Planning & Design

Department of Veterans Affairs



First Floor Plan



Second Floor Plan

Note: Kitchen furniture & equipment is existing, except for new sink, new cabinets and new computer work surface . Provide necessary utilities for all Kitchen & DayRoom/ Lounge furniture & equipment. VA will relocate kitchen furniture & equipment when necessary.

Basement Floor Plan

N

0 1 2 5 10 15 25 50

GRAPHIC SCALE
IN FEET

Drawing Scale: $\frac{1}{8}$"=1'-0"
30x42 drawing sheet

Revisions	Date

Refer to ALL other project drawings for related work.

Drawing Title: Furniture/ Equipment Layout Plan

Project Title: Rehab Bldg 259 For Fire Department

Date: Dec. 19, 2011

Project No. 538-12-103

Approved: Assistant Chief, Engineering

Building Number: 259

Checked:

Drawn: B. Ford

DRAWING NO. 259-9

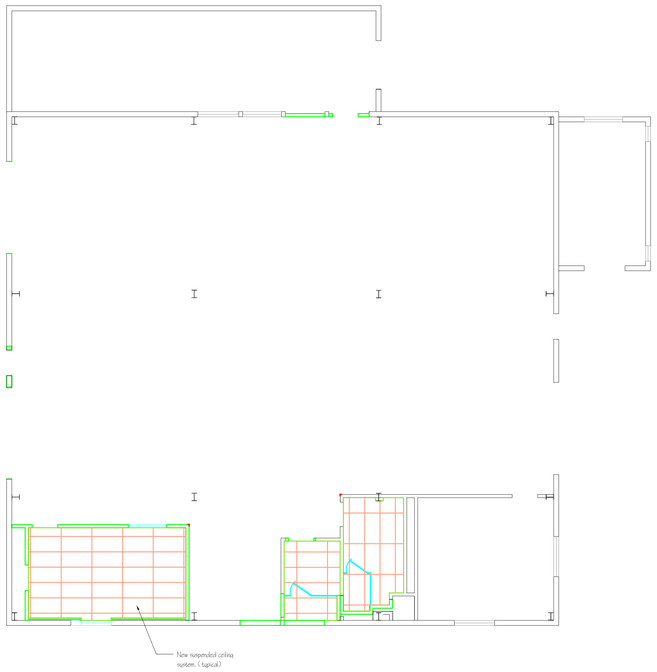
Dwg. 9 Of 19

Approved: Chief, Engineering

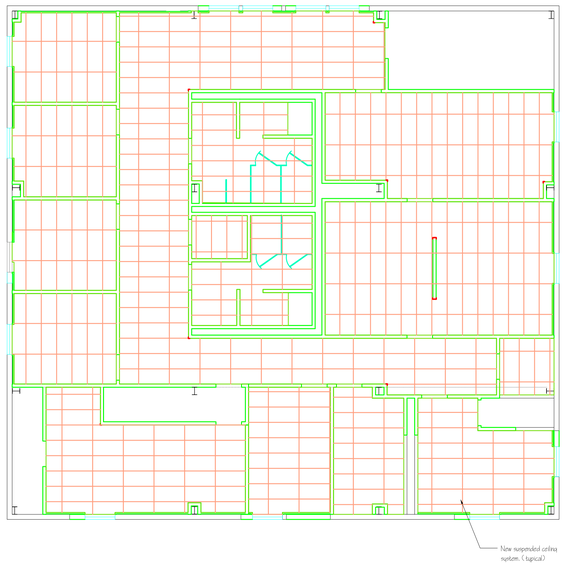
Location: Chillicothe, Ohio

Planning & Design

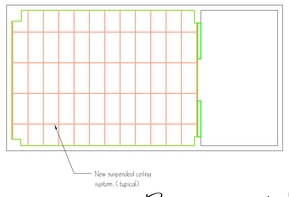
Department of Veterans Affairs



First Floor Plan



Second Floor Plan



Basement Floor Plan

NOTES:
1. New suspended ceiling height to be 9'-0", except toilet room ceiling height to be 8'-0".

N

0 1 2 5 10 15 25 50
GRAPHIC SCALE
IN FEET

Drawing Scale: 1/8"=1'-0"
30x42 drawing sheet

Revisions	Date

Refer to ALL other project drawings for related work.

Drawing Title: New Reflected Ceiling Plans

Project Title: Rehab Bldg 259 For Fire Department

Date: Dec. 19, 2011

Project No. 558-12-103

Approved: Assistant Chief, Engineering

Building Number: 259

Checked:

Drawn: B. Ford

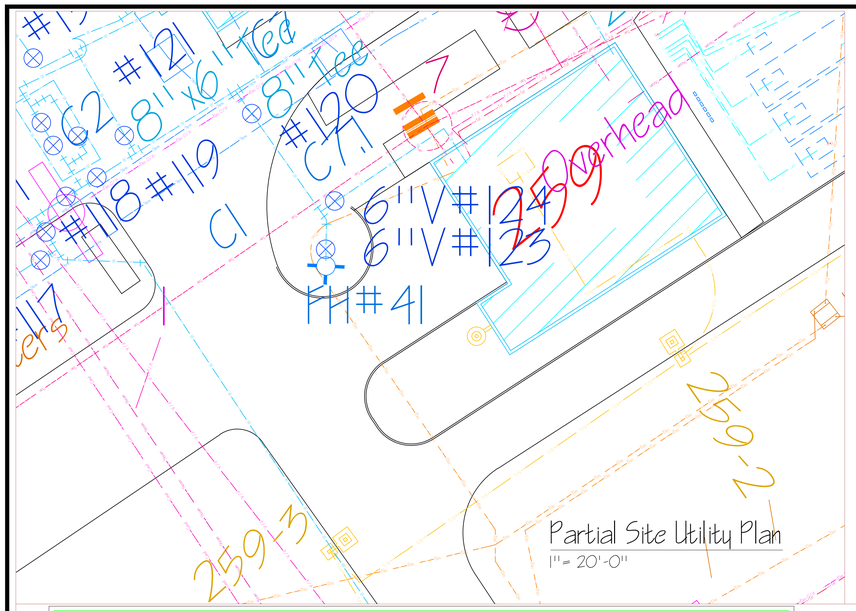
DRAWING NO. 259-10
Dwg. 1 Of 19

Approved: Chief, Engineering

Location: Chillicothe, Ohio

Planning & Design

Department of Veterans Affairs



Partial Site Utility Plan

1" = 20'-0"

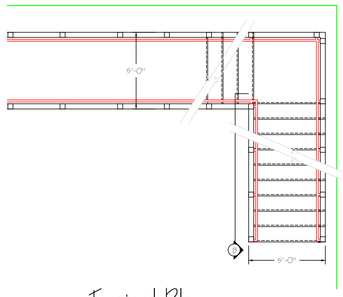
ROOM SCHEDULE

ROOM NO.	ROOM NAME	FLOOR NEW MTL.	FLOOR CO.	BASE NEW MTL. N	BASE E	BASE S	BASE W	BASE CO.	WALLS NEW MTL. N	WALLS E	WALLS S	WALLS W	WALLS CO.	WAINSCOT NEW MTL. N	WAINSCOT E	WAINSCOT S	WAINSCOT W	WAINSCOT CO.	REMARKS
B-1	Basement Entry	RT	RB1	RC			RC	RB5	P			P	RB5						
B-2	Exercise/ Weight Room	RT	RB1	RC			RC	RB5	P			P	RB5						
1-1	Generator Room	EX																	Existing to Remain
1-2	Mens Toilet	PP	PP1	PP			PP	PP1	PP			PP	PP1						
1-3	Womens Toilet	PP	PP1	PP			PP	PP1	PP			PP	PP1						
1-4	Watch Desk	SV	SV1	RC			RC	RB5	P			P	RB5						
1-4A	Mechanical Room	EX	EX	RC			RC	RB5	P			P	RB5						
1-5	Vehicle Bays	EX		EX			EX		P			P	RB5						
1-6	Storage	EX		EX			EX		P			P	RB5						
2-1	Fire Chief's Office	CT	C11	RC			RC	RB5	P			P	RB5						
2-1A	Communications Closet	VCT	RB5	RC			RC	RB5	P			P	RB5						
2-2	Fire Fighter BedRoom	CT	C12	RC			RC	RB5	P			P	RB5						
2-3	Assist Chief's Office/ BedRoom	CT	C12	RC			RC	RB5	P			P	RB5						
2-4	Equipment Storage	VCT	RB5	RC			RC	RB5	P			P	RB5						
2-4A	Mechanical Room	VCT	RB5	RC			RC	RB5	P			P	RB5						
2-5	Fire Fighter BedRoom	CT	C12	RC			RC	RB5	P			P	RB5						
2-6	Fire Fighter BedRoom	CT	C12	RC			RC	RB5	P			P	RB5						
2-7	Fire Fighter BedRoom	CT	C12	RC			RC	RB5	P			P	RB5						
2-8	Fire Fighter BedRoom	CT	C12	RC			RC	RB5	P			P	RB5						
2-9	Storage Closet	VCT	RB5	RC			RC	RB5	P			P	RB5						
2-10	Day Room/ Lounge	CT	C14	RC			RC	RB5	P			P	RB5						
2-11	Kitchen	SV	SV1	RC			RC	RB5	P			P	RB5						
2-12	Female Toilet/ Shower	PP	PP1	PP			PP	PP1	PP			PP	PP1						
2-13	Utility Closet	PP	PP1	PP			PP	PP1	PP			PP	PP1						
2-14	Male Toilet/ Shower	PP	PP1	PP			PP	PP1	PP			PP	PP1						
2-15	Training/ Conference Room	CT	C15	RC			RC	RB5	P			P	RB5						
C-1	2nd Floor Corridor	VCT	RB5	RC			RC	RB5	P			P	RB5						
S-1	Southeast Stair	RTD	RB5	RC			RC	RB5	P			P	RB5						
S-2	Northwest Stair	RTD	RB5	RC			RC	RB5	P			P	RB5						

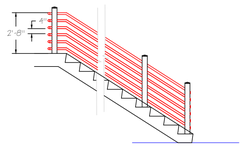
Finishes Legend

Abbreviation	Full Text	Design Information
RT	Rubber Tile	Nora Environcare Rubber Floor Tile
EX	Existing	Existing Finish to Remain
PP	Porcelain Pavers	Dal-Tile Colorado Slate Tile
SV	Sheet Vinyl	Armstrong Realitiles Sheet Vinyl
CT	Carpet	C1, Shaw Clarity, Birch; C2, Shaw Space, Steeling Beauty; C3, Shaw Clarity, Gravel; C4, Shaw Mosaic, Exotic.
VCT		
RTD	Vinyl Composition Tile	Vinyl Composition Tile
P	Rubber Treads	Rubber Treads
RB5	Paint	Paint
RB5	Paint	To Be Selected by Owner

Note: Listed finishes are provided for color and texture information. Other manufacturers that meet or exceed specification requirements may be submitted for review, provided listed color and/ or texture is available.



Typical Plan



Elevation B
Stair Handrail

Stairs Details

1/ 4" = 1'-0"

Note: Stairs structural support system not shown for clarity of handrail. Stairs support system to be included as part of the stairs system.

Doors and Frames Information

DOOR SIZES

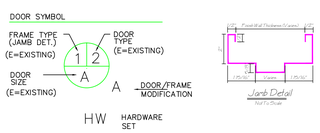
MARK	WIDTH	HEIGHT
M	1'-6"	7'-0"
N	2'-0"	7'-0"
P	2'-4"	7'-0"
Q	2'-6"	7'-0"
S	3'-0"	7'-0"
T	3'-4"	7'-0"
U	3'-6"	7'-0"
W	3'-8"	7'-0"
X	2'-6" (double)	7'-0"
Z	12'-0"	10'-8"

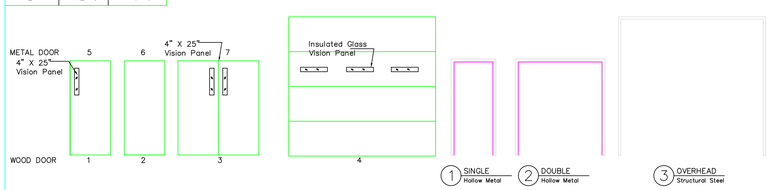
NOTES :

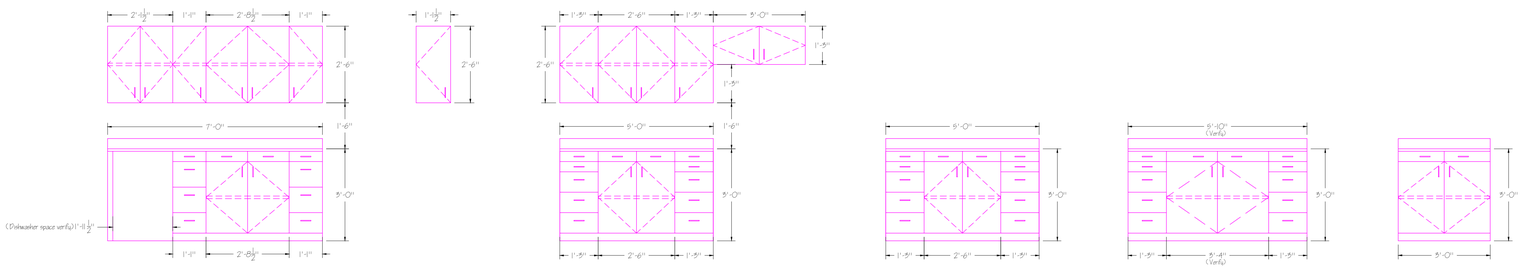
1. ALL DOORS SHALL BE FLUSH SOLID CORE WOOD & 1 3/4" THICK UNLESS NOTED OTHERWISE.
2. TOP & SIDE RAILS SHALL BE 9" MIN., BOTTOM RAILS 12" MIN.
3. ALL NEW DOOR FRAMES SHALL BE HOSPITAL STOP STYLE, UNLESS NOTED OTHERWISE.

DOOR MODIFICATIONS

A. ONE (1) HOUR RATED DOOR/FRAME







Cabinet 'A' | Cabinet 'B' | Cabinet 'C' | Cabinet 'D' | Cabinet 'E' | Cabinet 'F'

Cabinets Elevations

½" = 1'-0"

Revisions	Date

Refer to ALL other project drawings for related work.

Drawing Title: Misc. Details/ Information

Project Title: Rehab Bldg 259 For Fire Department

Date: Dec. 19, 2011

Project No. 538-12-103

Approved: Assistant Chief, Engineering

Building Number: 259

Checked:

Drawn: B. Ford

DRAWING NO. 259-11

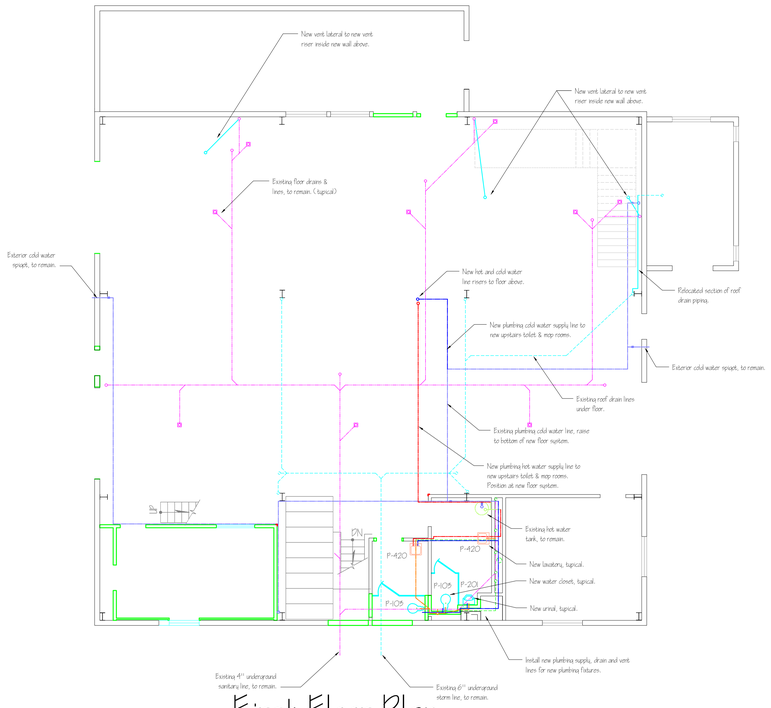
Dwg. 11 Of 19

Approved: Chief, Engineering

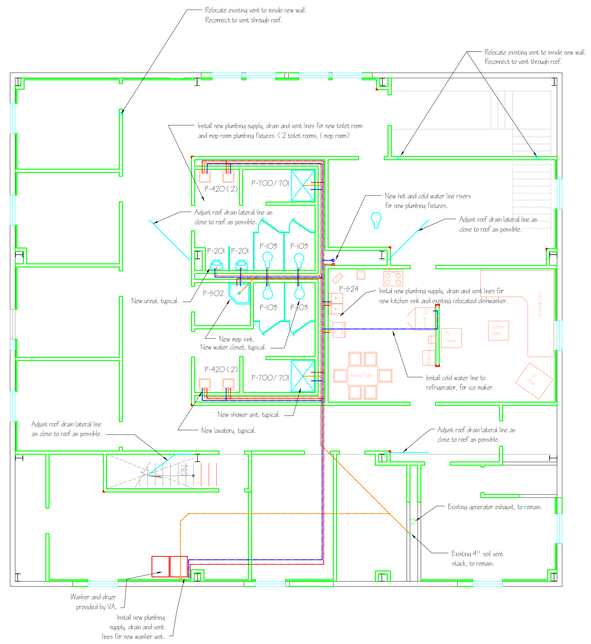
Location: Chillicothe, Ohio

Planning & Design

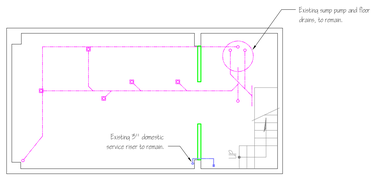
Department of Veterans' Affairs



First Floor Plan

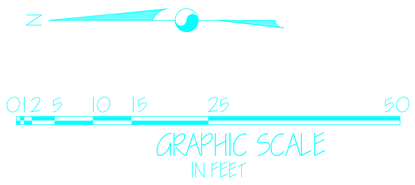


Second Floor Plan



Basement Floor Plan

NOTES:
1. Refer to New Sprinkler plan for related work.
2. Install new water shut off valves on new water main risers and laterals.



Drawing Scale: 1/8"=1'-0"
30x42 drawing sheet

Revisions	Date

Refer to ALL other project drawings for related work.

Drawing Title: New Plumbing Plans	Project Title: Rehab Bldg 259 For Fire Department		Date: Dec. 19, 2011
			Project No. 558-12-103
Approved: Assistant Chief, Engineering	Building Number: 259	Checked	Drawn: B. Ford
Approved: Chief, Engineering	Location: Chillicothe, Ohio		DRAWING NO. 259-12 Dwg. 12 Of 19

Planning & Design
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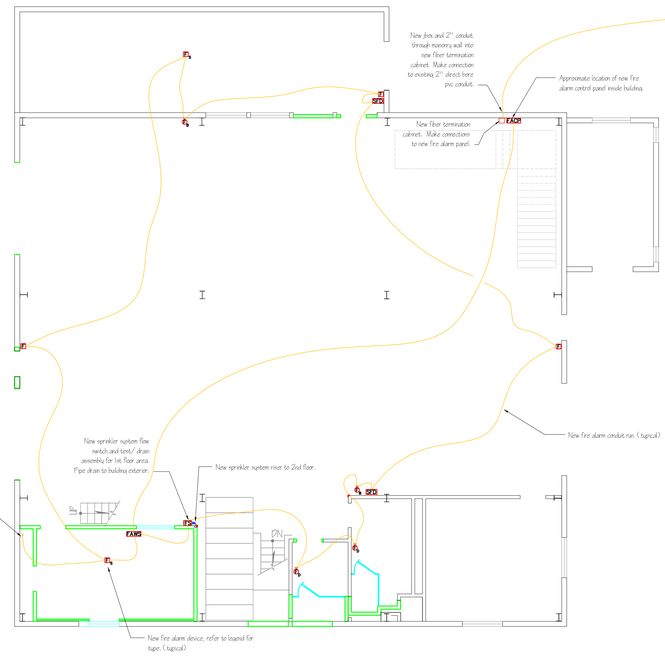
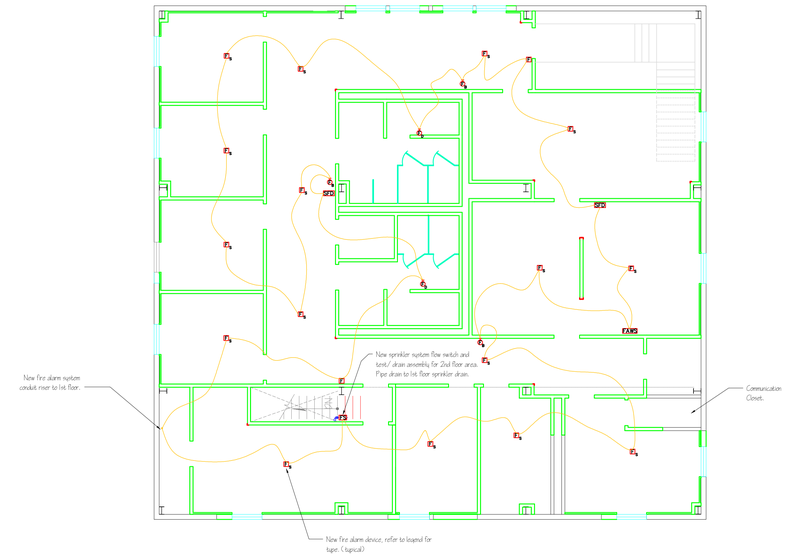
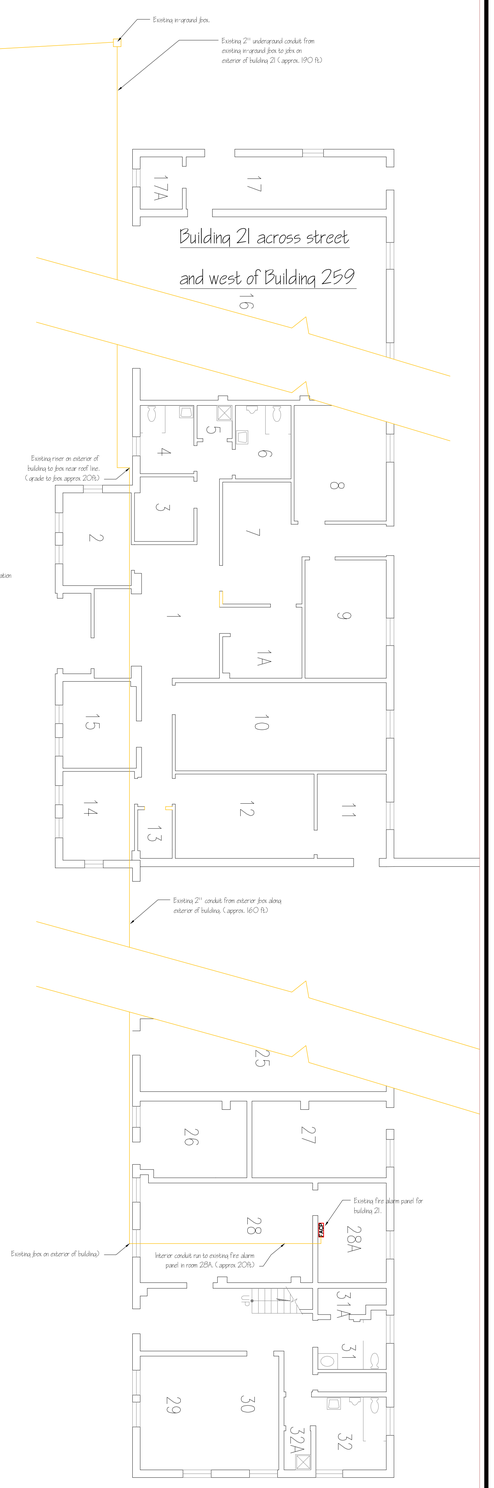
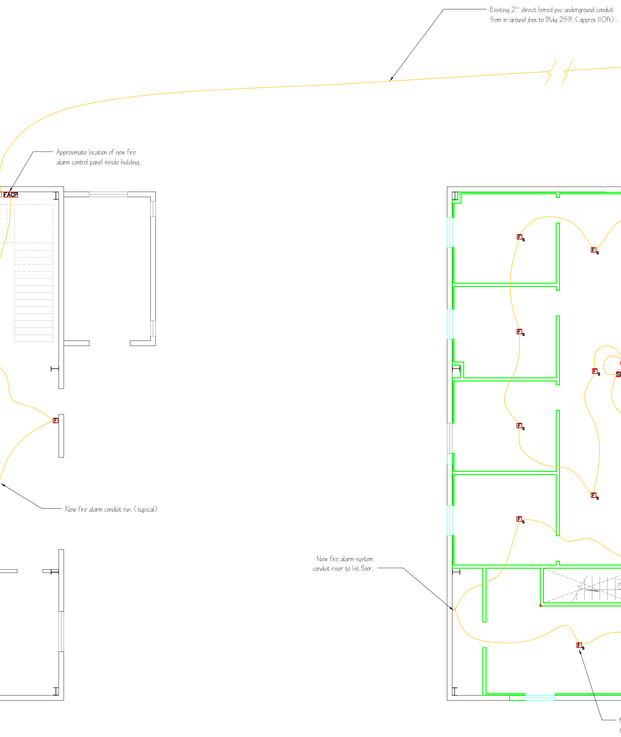


First Floor Plan



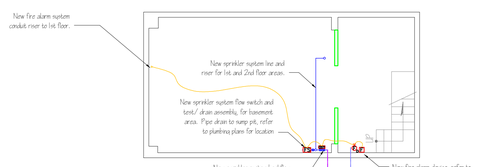
Second Floor Plan



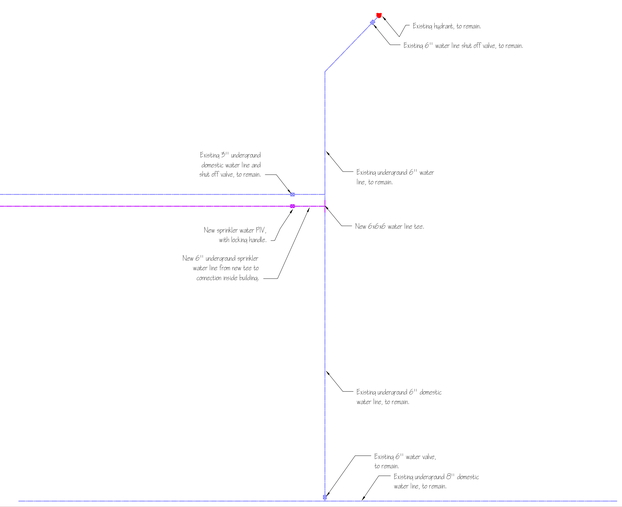


New Fire Alarm Device Legend

- FACP — Facility Fire Alarm Device
- FS — Sprinkler Water Flow Switch
- WCV — Sprinkler Water Valve Supervisory Switch
- F — Fire Alarm Manual Pull Station
- F SD — Smoke Detector Duct type
- F — Smoke Detector
- Fire Alarm Audible/ Visual (Strobe Only)
- Fire Alarm Audible/ Visual (Horn & Strobe)
- FACP — Fire Alarm Control Panel
- FAWS — Fire Alarm Web Station



Basement Floor Plan



Notes:
1. Building to be Fully Sprinkler protected. Occupancy classification to be Industrial per NFPA Life Safety Code 101.
2. Refer to New Plumbing plan for related work.
3. Hydrant #41 information: Static Pressure, 74 psi; Residual Pressure, 60 psi; Pitot Pressure, 24 psi; Water Flow, 822 gpm.
4. Fire alarm system shall be Manufactured by Simplex Grinnell. Contact Mr. Bill Fondaulis as (614) 602-0471.
5. All fire alarm work shall comply with VA Fire Protection Design Manual, current edition, available online at HTTP://WWW.CFM.VA.GOV/TL/DManual/DMFPFire.doc
6. Recess mount all new fire alarm devices in new drywall stud walls. Surface mount new fire alarm devices on existing partitions. Utilize finished backboxes (N.O. construction not permitted) painted to match wall surface. In finished areas of the building, utilize surface metal raceway (wiremold V500 series or equal) to above accessible ceilings. Transition to 0.75" conduit once above ceiling. In unfinished areas with exposed structure, utilize exposed 0.75" conduit for all new wiring/ cabling.
7. Install new 6 strand fiber optic cable from existing fire alarm panel in Bldg 21 room 28A to new fire alarm panel in Bldg 259. Furnish and install all necessary components at both fire alarm panels and make fiber connection.

N

0 1 2 5 10 15 25 50

GRAPHIC SCALE
IN FEET

Drawing Scale: 1/8"=1'-0"
30x42 drawing sheet

Revisions	Date

Refer to ALL other project drawings for related work.

Drawing Title: New Sprinkler & Fire Alarm Plans	Project Title: Rehab Bldg 259 For Fire Department		Date: Dec. 19, 2011
			Project No. 538-12-103
Approved: Assistant Chief, Engineering	Building Number: 259	Checked	Drawn: B. Ford
Approved: Chief, Engineering	Location: Chillicothe, Ohio		DRAWING NO. 259-13 Dwg. 13 Of 19

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DRAWING SYMBOLS

259-BC1
- BUILDING NO. WHERE EQUIPMENT IS LOCATED.
- EQUIPMENT ABBREVIATION (SUPPLY FAN)
- BRANCH CONTROLLER NO.1 IN BUILDING NO. 259
- TYPICAL UNIT NO.

259-01
- DX VRF FAN COIL UNIT DESIGNATION
- UNIT NUMBER. REFER TO DX VRF FAN COIL UNIT SCHEDULE

DUCTWORK SYMBOLS

- CEILING DIFFUSERS (FOUR WAY BLOW UNLESS OTHERWISE NOTED)
- EXHAUST OR RETURN CEILING REGISTER OR GRILLE
- VANED ELBOW (PROVIDE ALL SQUARE OR RECTANGULAR ELBOWS WITH VANES EVEN IF SYMBOL IS MISSING)
- STANDARD RADIUS ELBOW
- 10/8 — NEW DUCT – WIDTH X DEPTH
- MANUAL VOLUME DAMPERS

AIR CONDITIONING

- R — INSULATED REFRIGERANT LIQUID AND SUCTION PIPING
- D — COOLING COIL CONDENSATE DRAIN LINE

GENERAL

- DIRECTION OF PIPE PITCH (DOWN)
- RISE OR DROP IN PIPE

ABBREVIATIONS

A	AMPS
AD	ACCESS DOOR
AFF	ABOVE FINISHED FLOOR
AHU	AIR HANDLING UNIT
AP	ACCESS PANEL
ATC	AUTOMATIC TEMPERATURE CONTROLS
BC	BRANCH CONTROLLER
BIW	BACKWARD INCLINED WHEEL
BTUH	BRITISH THERMAL UNITS PER HOUR
CC	COOLING COIL
CD	CEILING DIFFUSER
CFM	CUBIC FEET PER MINUTE
CG	CEILING GRILLE
CO	CLEAN OUT
CONV	CONVECTOR
CR	CEILING REGISTER
CU	CONDENSING UNIT
CUH	CABINET UNIT HEATER
CW	COLD WATER
D	AUTOMATIC CONTROL DAMPER
Db	DRY BULB TEMPERATURE, DEG. F
DDC	DIRECT DIGITAL CONTROLS
DEG. F	DEGREES FAHRENHEIT
DHC	DUCT HEATING COIL
DX	DIRECT EXPANSION
E/A	EXHAUST AIR
ECL	ETCHED CLEAR LACQUER
ERV	ENERGY RECOVERY VENTILATOR
E.S.P.	EXTERNAL STATIC PRESSURE
EX.	EXISTING
FC	FLEXIBLE CONNECTION
FCU	FAN COIL UNIT
FCW	FORWARD CURVED WHEEL
FLR.	FLOOR
FD	FLOOR DRAIN
F.DPR.	FIRE DAMPER
H	HEIGHT
HC	HEATING COIL
HP	HORSEPOWER
KW	KILOWATT
KW/H	KILOWATTS PER HOUR
L	LENGTH
MER	MECHANICAL EQUIPMENT ROOM
MERV	MINIMUM EFFICIENCY REPORTING VALUE
MAX.	MAXIMUM
MCA	MINIMUM CIRCUIT AMPS
MIN.	MINIMUM
MOCP	MAXIMUM OVERCURRENT PROTECTION
NOM.	NOMINAL
O/A	OUTSIDE AIR
PD	PRESSURE DROP (FEET OF WATER)
PF	PRE–FILTER
Rh	RELATIVE HUMIDITY
S/A	SUPPLY AIR
SP	STATIC PRESSURE (INCHES OF WATER)
TR	TOP REGISTER (WALL TYPE)
TYP	TYPICAL
U/C	DOOR UNDERCUT BY GENERAL CONTRACTOR
VD	VOLUME DAMPER (MANUAL OPPOSED BLADE)
VRV	VARIABLE REFRIGERANT VOLUME
W	WIDTH
Wb	WET BULB TEMPERATURE, DEG. F
WBE	WHITE BAKED ENAMEL
W.G.	WATER GAUGE

GENERAL NOTES

1 N/A

2 ALL PIPING AND DUCTS IN FINISHED ROOMS OR SPACES SHALL BE CONCEALED IN FURRED CHASE OR ABOVE THE SUSPENDED CEILING.

3 THE FIRST FIGURE OF DUCT SIZE INDICATES DIMENSION OF FACE SHOWN OR INDICATED.

4 DIFFUSER, REGISTER AND GRILLE SIZES SHOWN ON FLOOR PLANS ARE NECK SIZES.

5 REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATION OF CEILING DIFFUSERS, REGISTERS AND GRILLES.

6 N/A

7 TERMINATE PIPING AND DUCTWORK BELOW FLOORS, ABOVE CEILINGS, ETC., IN CONCEALED SPACES. ALL CUTTING AND PATCHING SHALL MATCH EXISTING FINISHES.

8 FIELD VERIFY EXISTING CONDITIONS, INCLUDING DUCT, PIPE AND EQUIPMENT SIZES, SERVICES AND LOCATIONS PRIOR TO PERFORMING WORK.

9 REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.

10 THE CONTRACT DRAWINGS ARE NOT INTENDED TO SHOW EVERY VERTICAL OR HORIZONTAL OFFSET WHICH MAY BE NECESSARY TO COMPLETE THE SYSTEMS. COORDINATE WORK IN ADVANCE WITH ALL OTHER TRADES AND REPORT IMMEDIATELY ANY DIFFICULTIES WHICH CAN BE ANTICIPATED.

11 N/A

12 ALL ITEMS THAT REQUIRE ACCESS, SUCH AS FOR OPERATING, CLEANING, SERVICING, MAINTENANCE, AND CALIBRATION, SHALL BE EASILY AND SAFELY ACCESSIBLE BY PERSONS STANDING AT FLOOR LEVEL, OR STANDING ON PERMANENT PLATFORMS, WITHOUT THE USE OF PORTABLE LADDERS. EXAMPLES OF THESE ITEMS INCLUDE, BUT ARE NOT LIMITED TO: ALL TYPES OF VALVES, FILTERS AND STRAINERS, TRANSMITTERS, CONTROL DEVICES. PRIOR TO COMMENCING INSTALLATION WORK, REFER CONFLICTS BETWEEN THIS REQUIREMENT AND CONTRACT DRAWINGS TO THE PROJECT ENGINEER FOR RESOLUTION.

13 SEISMIC PROVISIONS NOT REQUIRED.

14 ALL PRESSURES LISTED ARE GAGE PRESSURE UNLESS OTHERWISE NOTED.

15 ALL CUTTING AND PATCHING REQUIRED FOR THE HVAC WORK SHALL BE INCLUDED IN THE HVAC CONTRACT. REFINISH ANY SURFACE DISTURBED UNDER THIS WORK TO MATCH EXISTING.

16 IN GENERAL, KEEP DUCT AND PIPING MAINS NEXT TO UNDERSIDE OF STRUCTURE.

17 WHERE CONTROL DEVICES ARE REMOVED, PNEUMATIC LINES SHALL BE REMOVED BACK TO MAIN AND CAPPED.

18 WHERE DUCTS OR PIPES ARE REMOVED THRU WALL/FLOOR/ROOF THAT IS TO REMAIN, PATCH WALL/FLOOR/ROOF OPENING TO MATCH EXISTING WHERE OPENING IS NOT RE–USED.

INDEX OF HVAC DRAWINGS

SHEET	DESCRIPTION
14	INDEX, LEGEND, AND GENERAL NOTES
15	NEW HVAC PLANS, AND SCHEDULES
16	DETAILS, AND CONTROL SEQUENCES
17	DETAILS

Revisions	Date

Refer to ALL other project drawings for related work.

Drawing Title: HVAC Dwg Index, Legend & General Notes

Approved: Chief, Engineering Service

Project Title: Rehab Bldg 259 For Fire Department

Building Number: 259 | Checked: | Drawn: KFC

Location: Chillicothe, Ohio

Date: Dec. 28, 2011

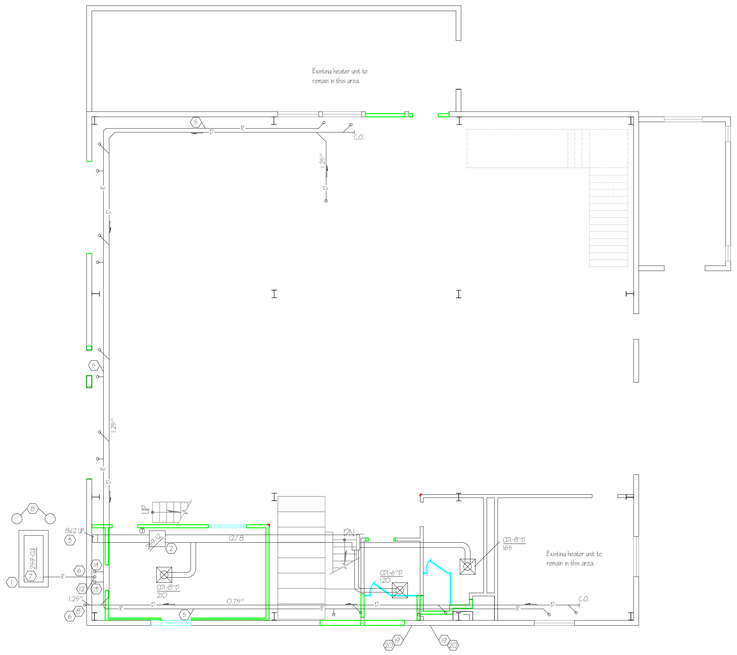
538-12-103

Drawing Number: 259-14

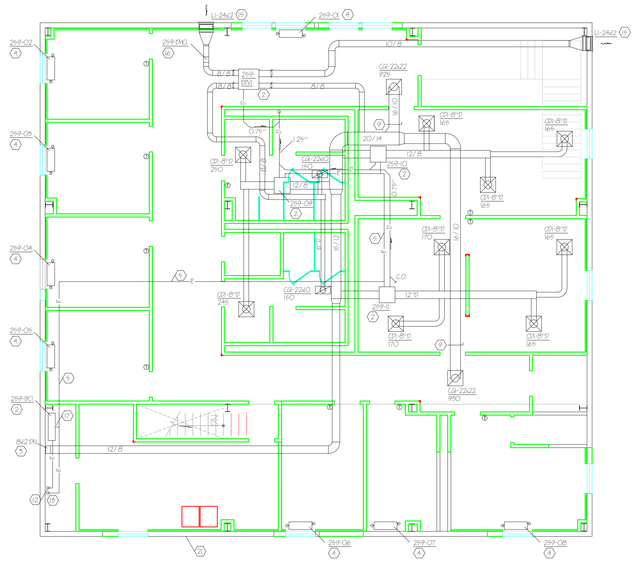
Dwg. 14 of 19

Planning & Design

Department of Veterans Affairs



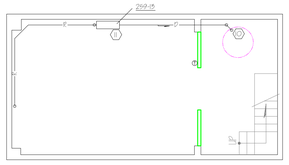
First Floor Plan



Second Floor Plan

NOTES

1. PROVIDE NEW 6" HIGH 4000 PSI AIR ENTRAINED CONCRETE EQUIPMENT PAD PER CONDENSING UNIT PAD DETAIL ON SHEET 16. EXTEND PAD 6" BEYOND EQUIPMENT ON ALL FOUR SIDES.
2. SUSPEND UNIT FROM OVERHEAD STRUCTURE.
3. DUCT PASSES THROUGH SECOND FLOOR SLAB. PROVIDE DYNAMIC TYPE "C" FIRE DAMPER AT FLOOR PENETRATION WITH ACCESS FROM THE FIRST FLOOR.
4. FLOOR MOUNTED FAN COIL UNIT. REFER TO FAN COIL UNIT SCHEDULE ON THIS SHEET.
5. PROVIDE REFRIGERANT PIPING AND ACCESSORIES PER MANUFACTURER'S RECOMMENDATIONS AND PER SPEC SECTION 23 23 00. LINE REPRESENTS APPROXIMATE ROUTE OF PIPING. PROVIDE INSULATED LIQUID AND INSULATED SUCTION PIPING FROM 259-BC1 TO EACH FAN COIL UNIT INDIVIDUALLY.
6. SEAL PIPING PENETRATION WATER TIGHT.
7. INSTALL CONDENSING UNIT PER MANUFACTURER'S RECOMMENDATIONS. MAINTAIN ALL REQUIRED SERVICE CLEARANCES.
8. EXTEND CONDENSATE DRAIN PIPE DOWN WALL AND TERMINATE. PROVIDE SPLASH BLOCK.
9. OUTSIDE AIR MANUAL BALANCING DAMPER. REFER TO FAN COIL SCHEDULE ON THIS SHEET FOR REQUIRED CFM.
10. TERMINATE CONDENSATE DRAIN PIPE INTO EXISTING SUMP.
11. MOUNT UNIT ON WALL APPROXIMATELY 7'-0" A.F.F.
12. SECOND FLOOR SLAB PENETRATION FOR REFRIGERANT PIPING BETWEEN EXTERNAL CONDENSING UNIT 259-CU1 AND BRANCH CONTROLLER 259-BC1.
13. SECOND FLOOR SLAB PENETRATION FOR REFRIGERANT PIPING TO/FROM INDIVIDUAL FAN COIL UNITS.
14. FIRST FLOOR SLAB PENETRATION FOR REFRIGERANT PIPING TO/FROM BASEMENT FAN COIL UNIT 259-13.
15. AUTO DAMPER. REFER TO CONTROL SEQUENCE ON SHEET 16.
16. ELECTRIC DUCT HEATING COIL. REFER TO CONTROL SEQUENCE ON SHEET 16.
17. PROVIDE SHUT-OFF VALVE AT EACH FAN COIL UNIT CONNECTION.
18. PROVIDE BOLLARD PER DETAIL ON SHEET 16. COORDINATE EXACT LOCATION WITH CO.T.R.
19. INSTALL NEW OVERHEAD LAY-IN RESTROOM EXHAUST FAN POWERED FROM LIGHT CIRCUIT. FAN TO RUN WHEN LIGHT IS ON.
20. INSTALL NEW EXHAUST FOR RESTROOM FAN THROUGH EXTERIOR MASONRY WALL. EXHAUST DUCT TO INCLUDE RAIN SHIELD AND BIRD/INSECT DAMPER/SCREEN AT EXTERIOR.
21. INSTALL NEW EXHAUST FOR DRYER UNIT THROUGH EXTERIOR MASONRY WALL. EXHAUST DUCT TO INCLUDE RAIN SHIELD AND BIRD/INSECT DAMPER/SCREEN AT EXTERIOR.



Basement Floor Plan

DUCT PRESSURE CLASS & LEAKAGE TABLE

SYSTEM	DUCT INVOLVED	POSITIVE (P) OR NEGATIVE (N) PRESSURE	SMACNA CONST. CLASS W.G.	SMACNA SEAL CLASS	SMACNA LEAKAGE CLASS	
					RECTANGULAR DUCT	ROUND DUCT
ALL SYSTEMS	ALL DUCTWORK EXCEPT AS LISTED BELOW.	P/N	±2"	A	12	6
	SUPPLY AIR DUCTS FROM OUTLET OF VRV UNITS TO SUPPLY AIR DEVICES	P	1"	A	24	12
	GENERAL EXHAUST DUCTS	N	−2"	A	12	6
	OUTSIDE AIR DUCTS	N	−2"	A	12	6

AIR DISTRIBUTION DEVICES

SYMBOL	DESCRIPTION	TYPE MOUNTING		MATERIAL		FINISH		ACCESSORIES	SEE NOTE
		LAY-IN	SURFACE	STEEL	ALUM.	E.C.L.	W.B.E.		
CD1	STANDARD SQ. CONE CEILING DIFFUSER ROUND NECK	●		●			●		
CG1	EGGCRATE CEILING GRILLE	●			●		●		
L1	LOUVER	PROVIDED BY G.C.							

EQUIPMENT DATA

259-CU1
VARIABLE REFRIGERANT FLOW ZONING OUTDOOR UNIT
INVERTER-DRIVEN COMPRESSOR-R410A REFRIGERANT
NOMINAL CAPACITY: 192,000 BTU/HR COOLING
216,000 BTU/HR HEATING
ELECTRIC: 208 VOLT, 3 PHASE, 2 @ 24 MCA, 40 MOCP
SIZE: 73"L x 30"W x 65" HIGH

259-BC1
BRANCH CONTROLLER - 16 BRANCHES (MAIN BC CONTROLLER)
NOMINAL CAPACITY: 4.5 TONS PER BRANCH
POWER SOURCE: 208/230V 1PH 60HZ
MCA: 1.65A
MOP: 15A
HEATING POWER INPUT: 0.106 KW/H
COOLING POWER INPUT: 0.207 KW/H
HEATING STARTING CURRENT: 0.51/0.46 A
COOLING STARTING CURRENT: 1.04/0.94 A
NET WEIGHT: 162 LBS
REFRIGERANT: R410A
APPROX. DIMENSIONS: 11"x45"x20"

259-ERV1
ENERGY RECOVERY VENTILATOR
CAPACITY: 600 CFM
ELECTRIC: 208V - 1PH; MCA 3.7 AMP; MOCP 15AMP
MOTOR: 0.92 HP INDUCTION MOTOR
STATIC PRESSURE: 0.75"
TEMPERATURE RECOVERY EFFICIENCY: 69%
ENTHALPHY RECOVERY EFFICIENCY: HEATING 62% COOLING 44%
PROVIDE WITH CONTROLLER AND INTERLOCK WITH VARIABLE REFRIGERANT FLOW SYSTEM.
BALANCE EXHAUST FAN TO 500 CFM.
BALANCE SUPPLY FAN TO 350 CFM.

ELECTRIC DUCT HEATING COIL SCHEDULE

UNIT NO.	LOCATION	CFM	ENT. AIR DEG. F	UNIT POWER		MIN. BTUH	SEE NOTE
				KW	VOLT. PHASE		
259-DHC1	OUTSIDE AIR SUPPLY	350	0	5	208-3	17,060	1,2

NOTES :
1. UNIT SHALL BE ENERGIZED ON A CALL FOR HEAT FROM ASSOCIATED INDOOR VRF UNIT.
2. HEATER SHALL BE DUCT MOUNTED. PROVIDE MOUNTING BRACKETS AND HARDWARE.

HVAC DESIGN DATA

OUTDOOR DESIGN TEMPERATURES — 95 DEG. F Db SUMMER; 78 DEG. F Wb SUMMER; 0 DEG. F Db WINTER — DESIGN ALTITUDE: 638 FT.

INDOOR AREA DESIGN CONDITIONS	SUMMER		WINTER	
	Db (°F)	% HUMIDITY	Db (°F)	% HUMIDITY
ALL AREAS	75	50	72	–

DX VRF FAN COIL UNITS

UNIT NO. (1)	TYPE	FAN CFM	O/A CFM	COOLING CAPACITY (BTUH)	HEATING CAPACITY (BTUH)	FAN MOTOR			APPROXIMATE SIZE			SEE NOTE
						E.S.P.	WATTS	VOLT-PHASE	L	W	H	
259-01	FLOOR MOUNTED	280	–	8000	9000	–	20	208-1	32	8	28	
259-02	FLOOR MOUNTED	210	–	6000	6700	–	17	208-1	32	8	28	
259-03	FLOOR MOUNTED	210	–	6000	6700	–	17	208-1	32	8	28	
259-04	FLOOR MOUNTED	210	–	6000	6700	–	17	208-1	32	8	28	
259-05	FLOOR MOUNTED	210	–	6000	6700	–	17	208-1	32	8	28	
259-06	FLOOR MOUNTED	210	–	6000	6700	–	17	208-1	32	8	28	
259-07	FLOOR MOUNTED	210	–	6000	6700	–	17	208-1	32	8	28	
259-08	FLOOR MOUNTED	280	–	8000	9000	–	20	208-1	32	8	28	
259-09	HORIZONTAL DUCTED	495	80	15000	17000	.8	130	208-1	35	29	15	3
259-10	HORIZONTAL DUCTED	495	80	15000	17000	.8	130	208-1	35	29	15	3
259-11	HORIZONTAL DUCTED	670	110	24000	27000	.8	180	208-1	35	29	15	3
259-12	HORIZONTAL DUCTED	495	80	15000	17000	.8	130	208-1	35	29	15	2,3
259-13	WALL HUNG	280	–	8000	9000	–	20	208-1	32	6	11	

NOTES :
1. CONTACT PLANT ENGINEERING FOR ACTUAL BOX NUMBER.
2. PROVIDE FBM SERIES FILTER BOX WITH 2" THICK PLEATED, MERV 13 FILTER WITH UNIT.
3. PROVIDE OUTPUT SIGNAL TO ENERGIZE ASSOCIATED SUPPLEMENTAL ELECTRIC DUCT HEATING COIL WHEN SUPPLEMENTAL HEAT IS REQUIRED TO SATISFY SPACE TEMPERATURE SETPOINT.

GRAPHIC SCALE IN FEET
0 1 2 5 10 15 25 50

Drawing Scale: 1/8"=1'-0"
30x42 drawing sheet

Revisions	Date

Refer to ALL other project drawings for related work.

Drawing Title: New HVAC Plans

Project Title: Rehab Bldg 259 For Fire Department

Date: Dec. 28, 2011

Project No. 538-12-103

Approved: Assistant Chief, Engineering

Building Number: 259

Checked:

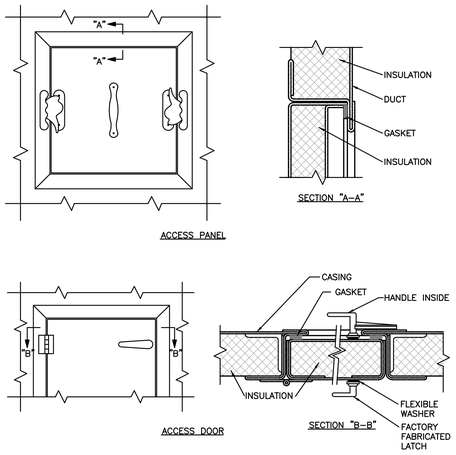
Drawn: KFC

DRAWING NO. 259-15
Dwg. 15 Of 19

Approved: Chief, Engineering

Location: Chillicothe, Ohio

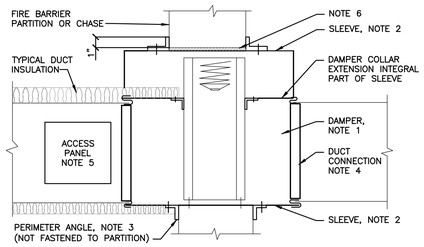
Planning & Design
Department of Veterans Affairs



NOTES:

1. LATCHES SHALL BE OF THE WEDGE TYPE TO CLOSE DOORS TIGHTLY.
2. HINGES ON THE ACCESS DOORS SHALL HAVE NON–CORROSIVE PINS.
3. SEE SMACNA 2005, FIGURE 9–15

ACCESS PANEL AND DOOR DETAIL



NOTES:

1. A VERTICAL DAMPER IS SHOWN. HORIZONTAL DAMPER INSTALLATION, IS SIMILAR. FOLLOW DAMPER MANUFACTURER'S INSTRUCTIONS, INCLUDING FASTENER OPTIONS AND GAGES FOR SLEEVE AND PERIMETER ANGLES. FIRE DAMPERS MUST BE INSTALLED IN THE PARTITION OR FLOOR AND NOT OUTSIDE THE PENETRATION.
2. GALVANIZED SLEEVE: GAGE NOT LESS THAN CONNECTING DUCT. FASTEN SLEEVE TO DAMPER FRAME AND TO PERIMETER ANGLES.
3. PERIMETER ANGLES: GALVANIZED STEEL, NOT LESS THAN 1–1/2"x1–1/2" , 14 GAGE, TO PROVIDE 1" MINIMUM OVERLAP OF OPENING ON ALL 4 SIDES.
4. BREAKAWAY DUCT CONNECTION: CONTRACTOR'S OPTION OF TYPES SHOWN IN SMACNA.
5. ACCESS PANELS: SIZE AND LOCATION TO PERMIT SERVICING THE FUSIBLE LINK OR LINKS.
6. PROVIDE 1/4" TO 1/2" CLEARANCE ON HEIGHT AND WIDTH. IN ORDER TO MAINTAIN U.L. RATING FOR FIRE DAMPER, DO NOT FILL THIS OPEN SPACE WITH FIRESTOP MATERIAL.
7. ALL DUCT WORK RISERS WHICH ARE RUN EXPOSED, SUCH AS THRU ATTIC FLOORS AND MECHANICAL ROOM FLOORS, SHALL BE PROVIDED WITH 3" HIGH CONCRETE CURB AROUND OPENING FOR DUCT.

SECTION THRU FIRE DAMPER INSTALLATION

CONTROL SEQUENCES

1 GENERAL

1.1 THE EQUIPMENT MANUFACTURER SHALL PROVIDE A COMPLETE SYSTEM OF AUTOMATIC CONTROLS CAPABLE OF FULLY SUPPORTING ALL COMPONENTS OF THE VRF SYSTEM, INCLUDING BUT NOT LIMITED TO, OUTDOOR UNIT, BRANCH CIRCUIT CONTROLLER, ENERGY RECOVERY VENTILATOR, OUTSIDE AIR AND EXHAUST AIR DAMPERS, ALL INDOOR FAN COIL UNITS AND ELECTRIC DUCT HEATERS.

1.2 SYSTEMS SHALL BE STARTED AND STOPPED WITH TIME SCHEDULES, PROGRAMMABLE BY END USER.

1.3 INITIAL SCHEDULES – SPACES WILL BE OCCUPIED CONTINUOUSLY, 24 HOURS PER DAY, 365 DAYS PER YEAR. COORDINATE EXACT SCHEDULES WITH COTR.

1.4 WHEN SYSTEM IS OFF FOR ANY REASON, EXHAUST AND OUTSIDE AIR DAMPERS SHALL BE CLOSED.

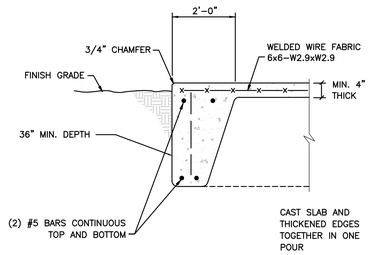
2 ELECTRIC DUCT HEATING COILS

2.1 ELECTRIC DUCT COILS LOCATED IN OUTSIDE AIR DUCT SHALL MAINTAIN THE AIR ENTERING ERV ABOVE 14 DEG. F.

2.3 ELECTRIC DUCT COILS SHALL INCLUDE AIRFLOW PROVING SWITCH, AUTOMATIC RESET TEMP LIMITING CONTROL AND LOAD CARRYING OVER TEMPERATURE PROTECTIVE DEVICE(S).

3 AUTOMATIC CONTROL DAMPERS

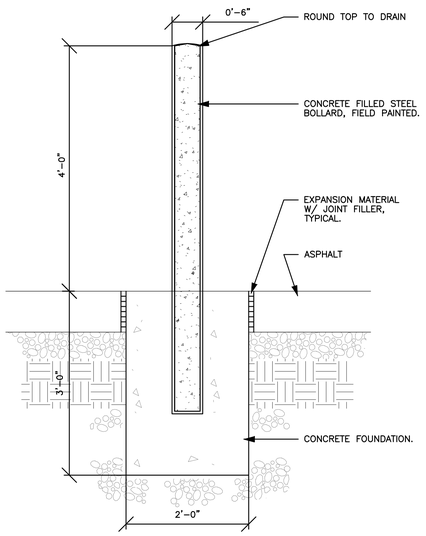
3.1 MOTORIZED TWO–POSITION OUTSIDE AIR AND EXHAUST AIR DAMPERS SHALL BE HARD WIRE INTERLOCKED TO OPEN WHEN THE ERVS RESPECTIVE FAN (SUPPLY OR EXHAUST) IS ENERGIZED.



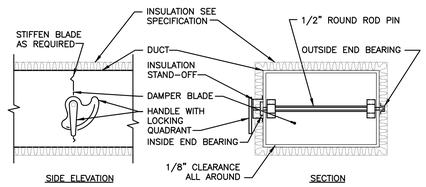
TYP. ALL FOUR SIDES

CONDENSING UNIT PAD DETAIL

SCALE: NONE



BOLLARD DETAIL



NOTES:

1. DELETE INSULATION STAND–OFF ON DUCTWORK WITHOUT EXTERIOR INSULATION.
2. DETAIL SHOWS SINGLE BLADE DAMPER. DAMPER INSTALLATION SHALL BE SIMILAR FOR MULTI–BLADE DAMPERS & ROUND DAMPERS.

VOLUME DAMPER DETAIL

Revisions	Date

Refer to ALL other project drawings for related work.

Drawing Title: HVAC Details

Approved: Chief, Engineering Service

Project Title: Rehab Bldg 259 For Fire Department

Building Number: 259 | Checked: | Drawn: KFC

Location: Chillicothe, Ohio

Date: Dec. 28, 2011

538-12-103

Drawing Number: 259-16

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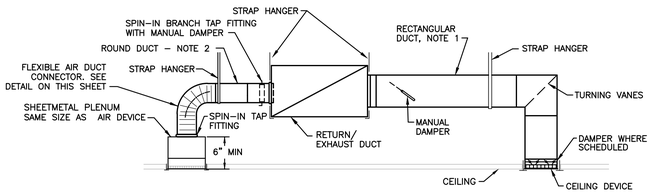
Planning & Design

Department of Veterans' Affairs

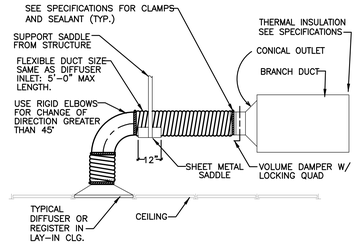


NOTES:

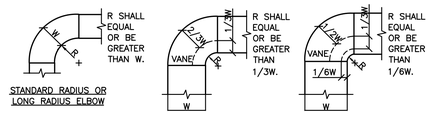
1 BRANCH DUCT TAKE-OFF WITH MANUAL DAMPER.

2 BRANCH DUCT SIZES, UNLESS NOTED ON PLANS ARE TO BE SIZED AS FOLLOWS:
100 CFM AND LESS – 6" DIA.
101 CFM TO 250 CFM – 8" DIA.
251 CFM TO 400 CFM – 10" DIA.
401 CFM TO 700 CFM – 12" DIA.

RETURN OR EXHAUST GRILLE/REGISTER CONNECTION



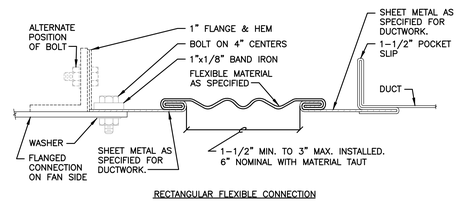
FLEXIBLE AIR DUCT CONNECTOR



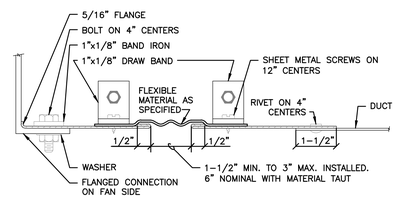
NOTES:

1. THE INTERIOR SURFACE OF ALL RADIUS ELBOWS SHALL BE MADE ROUND.
2. ALL STANDARD RADIUS ELBOWS CAN BE SUBSTITUTED WITH SHORT RADIUS ELBOWS. ALL SHORT RADIUS ELBOWS SHALL HAVE VANES. VANES SHALL BE CONSTRUCTED, SUPPORTED AND FASTENED AS RECOMMENDED BY SMACNA.

DUCTWORK RADIUS ELBOWS

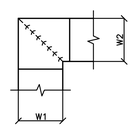


RECTANGULAR FLEXIBLE CONNECTION



ROUND FLEXIBLE CONNECTION

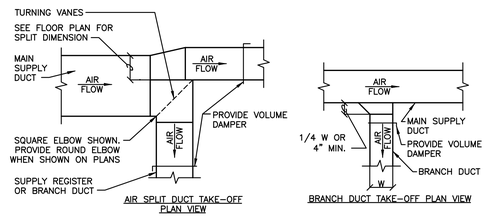
FLEXIBLE DUCT CONNECTIONS



NOTES:

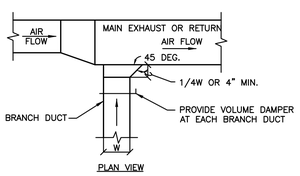
1. ALL VANE ELBOWS SHALL BE CONSTRUCTED AND INSTALLED AS DETAILED BY SMACNA.
2. WHEN W1 DOES NOT EQUAL W2, VANE SHALL BE SINGLE THICKNESS VANE TYPE REGARDLESS OF W DIMENSION.
3. ALL SINGLE THICKNESS VANES SHALL HAVE A 2" RADIUS, 1 1/2" MAXIMUM SPACE BETWEEN VANES AND A 3/4" TRAILING EDGE.
4. WHEN W EQUALS W2 AND W1 IS GREATER THAN 20", VANES SHALL BE DOUBLE VANE TYPE.

DUCTWORK SQUARE VANE ELBOWS



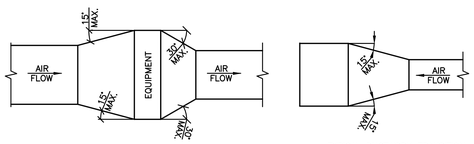
SUPPLY DUCTWORK TAKE-OFFS

THE BRANCH DUCT TAKE-OFF MAY BE USED FOR UP TO 15% OF THE MAIN DUCT CFM ANYTIME, AND UP TO 40% WHEN THE MAIN DUCT VELOCITY IS 1000 FPM OR LESS. THE AIR SPLIT DUCT TAKE-OFF SHALL BE USED IN ALL OTHER CASES



PLAN VIEW

EXHAUST OR RETURN BRANCH DUCTWORK

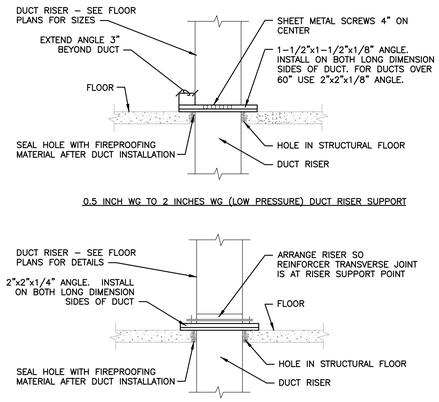


TYPICAL DUCTWORK TRANSITION WITH EQUIPMENT MOUNTED IN DUCT PLAN OR SIDE VIEW

TYPICAL DUCTWORK TRANSITION PLAN OR SIDE VIEW

NOTE:
UNLESS OTHERWISE INDICATED ON PLANS, MAXIMUM ANGLES SHOWN SHALL APPLY.

DUCTWORK TRANSITIONS

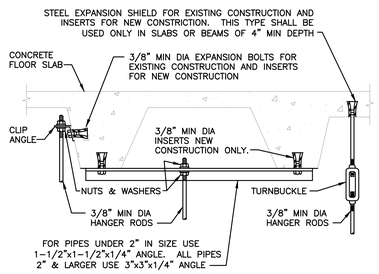


0.5 INCH WG TO 2 INCHES WG (LOW PRESSURE) DUCT RISER SUPPORT

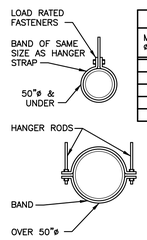
2 INCHES WG TO 4 INCHES WG (HIGH AND MEDIUM PRESSURE) DUCT RISER SUPPORT

NOTE:
ALL DUCT WORK RISERS WHICH ARE RUN EXPOSED, SUCH AS THRU ATTIC FLOORS AND FAN ROOM FLOORS SHALL BE PROVIDED WITH A 3" HIGH CONCRETE CURB AROUND OPENING FOR DUCT.

DUCT RISER SUPPORTS



SECURING HANGER RODS IN CONCRETE



HANGER STRAPS OR RODS			
MAX. DUCT ø IN.	QUANTITY/SIZE IN.	MAX. LOAD LBS.	MAX. SPACING IN.
26	ONE 1 x 22 GA STRAP	260	144
36	ONE 1 x 18 GA STRAP	420	144
50	ONE 1 x 16 GA STRAP	700	144
60	TWO 3/8ø. RODS	1320	144
84	TWO 1/2ø RODS	2500	144

NOTE:
TABULATED DATA FROM SMACNA ALLOWS FOR DUCT REINFORCING AND INSULATION, BUT NO EXTERNAL LOAD.

ROUND DUCT HANGERS

Revisions	Date

Refer to ALL other project drawings for related work.

Drawing Title: HVAC Details

Approved: Chief, Engineering Service

Project Title: Rehab Bldg 259 For Fire Department

Building Number: 259 | Checked: | Drawn: KFC

Location: Chillicothe, Ohio

Date: Dec. 28, 2011

538-12-103

Drawing Number: 259-17

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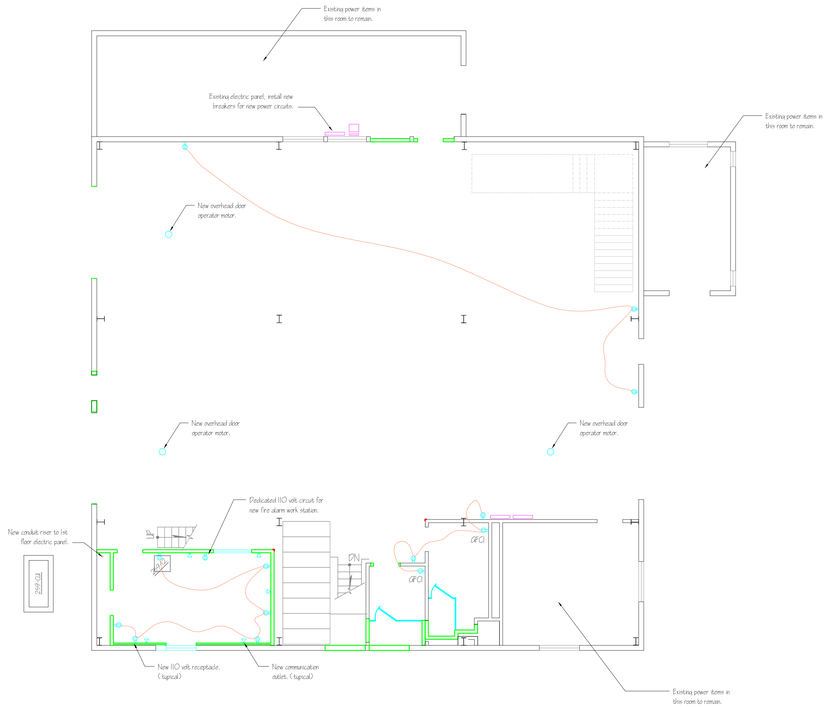
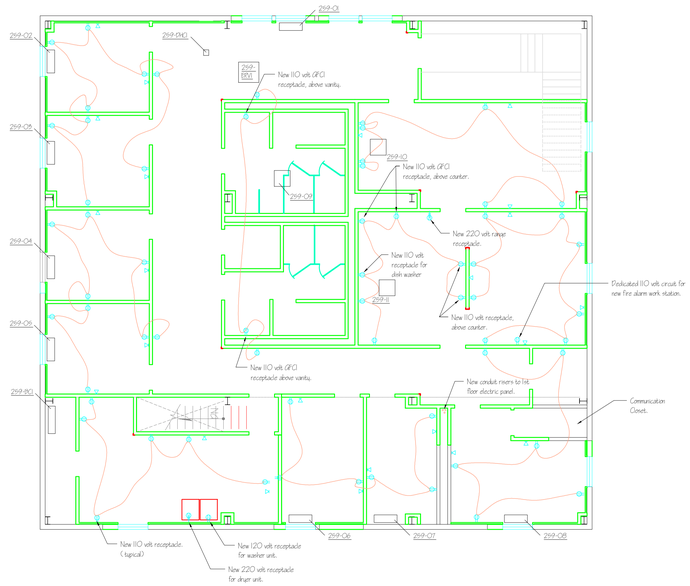
Planning & Design

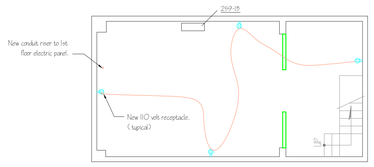
Department of Veterans' Affairs



First Floor Plan



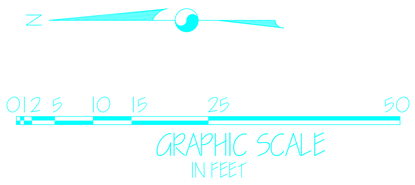
Second Floor Plan



Basement Floor Plan

NOTES:

1. Extend communication cables from new communication jacks to existing communication room on 2nd floor. Make necessary connections to terminal blocks.
2. Provide power circuit for new HVAC equipment items. Refer to HVAC drawings for additional information.



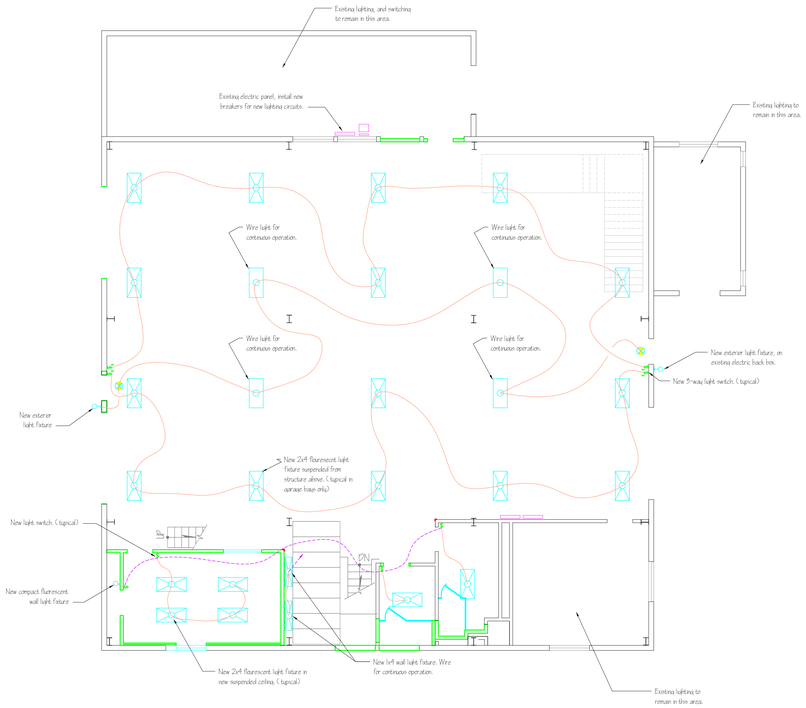
Drawing Scale: 1/8"=1'-0"
30x42 drawing sheet

Revisions	Date

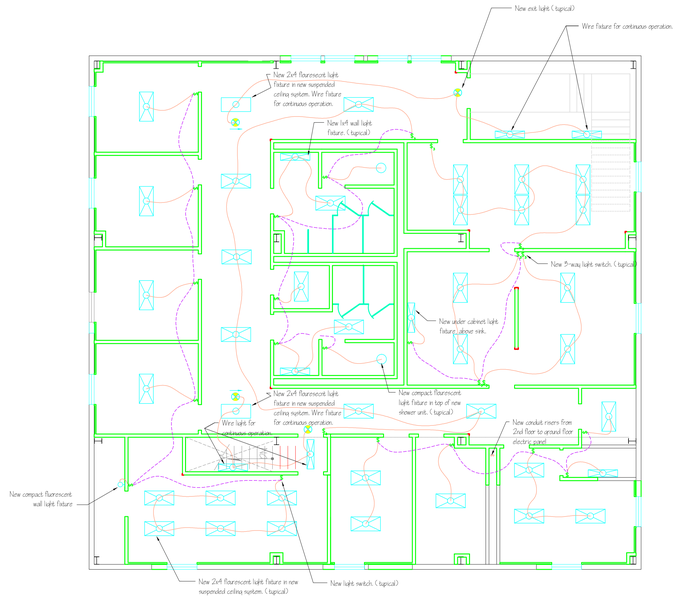
Refer to ALL other project drawings for related work.

Drawing Title: New Signal & Power Plans	Project Title: Rehab Bldg 259 For Fire Department		Date: Dec. 19, 2011
			Project No. 558-12-103
Approved: Assistant Chief, Engineering	Building Number: 259	Checked	Drawn: B. Ford
Approved: Chief, Engineering	Location: Chillicothe, Ohio		DRAWING NO. 259-18 Dwg. 18 Of 19

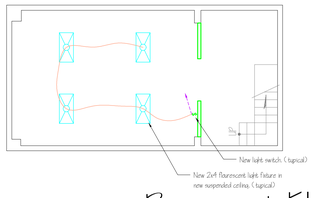
Planning & Design
Department of Veterans Affairs



First Floor Plan



Second Floor Plan



Basement Floor Plan

N

0 1 2 5 10 15 25 50

GRAPHIC SCALE
IN FEET

Drawing Scale: 1/8"=1'-0"
30x42 drawing sheet

Revisions	Date

Refer to ALL other project drawings for related work.

Drawing Title: New Lighting Plans	Project Title: Rehab Bldg 259 For Fire Department		Date: Dec. 19, 2011
			Project No. 558-12-103
Approved: Assistant Chief, Engineering	Building Number: 259	Checked	Drawn: B. Ford
Approved: Chief, Engineering	Location: Chillicothe, Ohio		DRAWING NO. 259-19 Dwg. 19 Of 19

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Department of Veterans Affairs